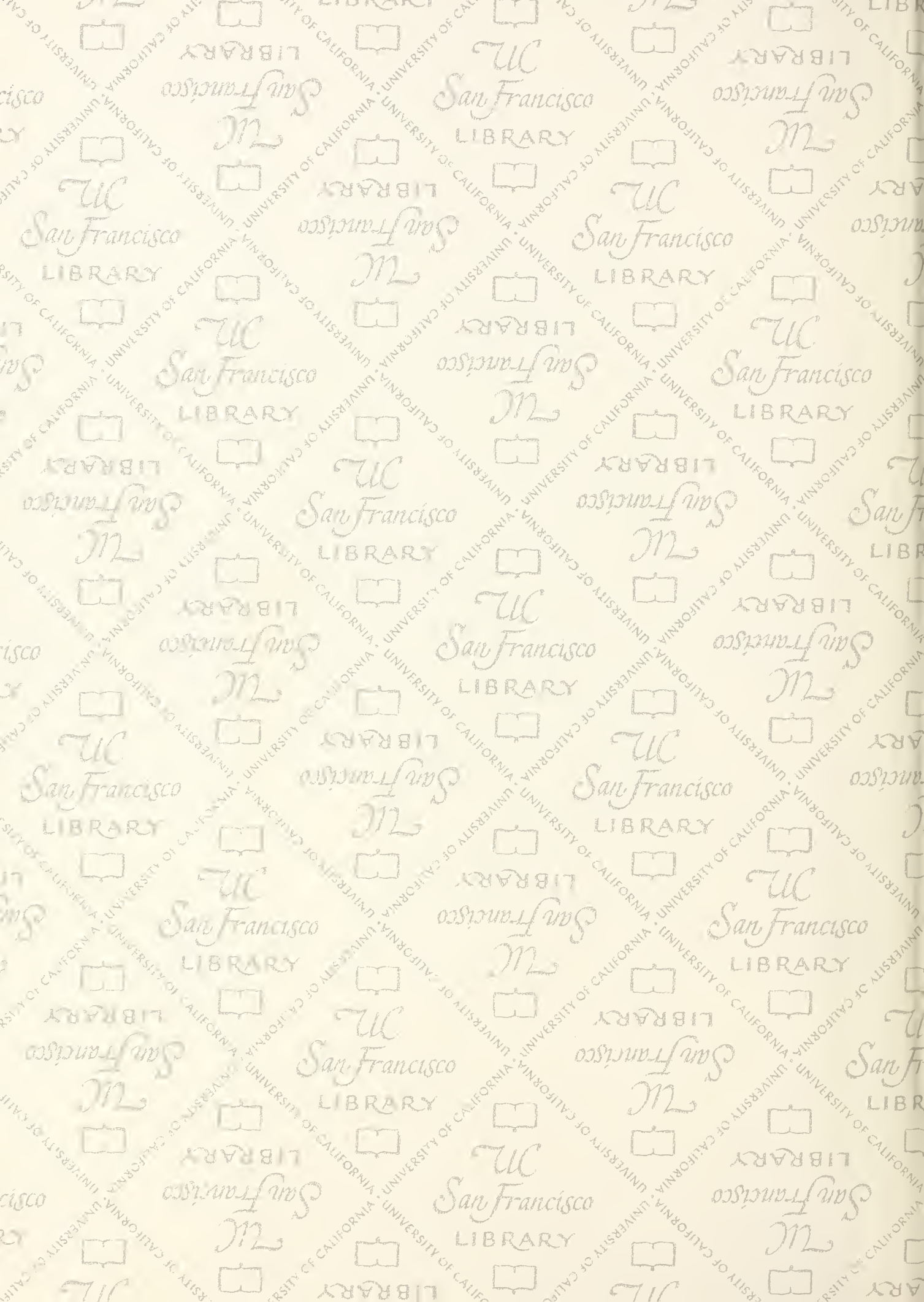


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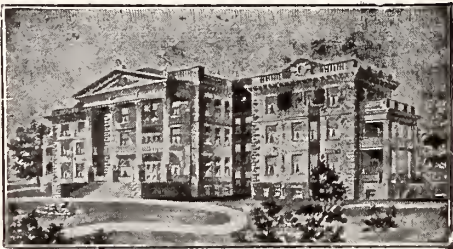
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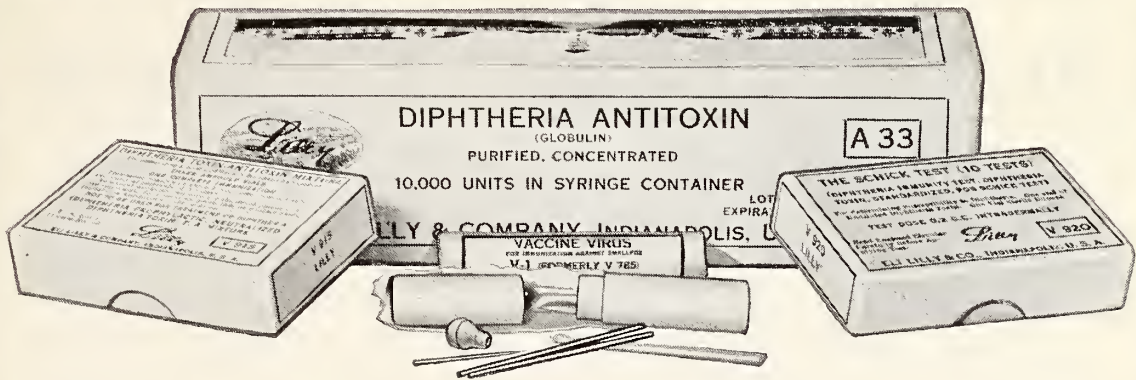
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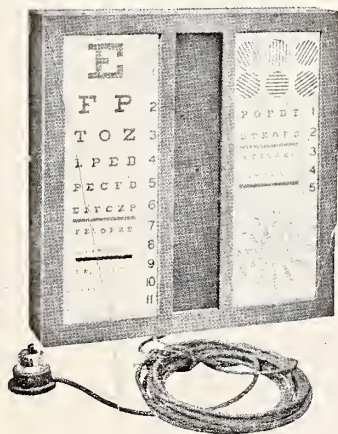
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The Journal

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ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. XXII

GRAND RAPIDS, MICHIGAN, JANUARY, 1923

No. 1

Original Articles

THE RELATION OF DIET TO DEVELOPMENT OF DENTAL CARIES*

GUY L. BLISS, M. D.
KALAMAZOO, MICH.

For years the dental profession has waged a losing battle in its attempt to control caries in a child's teeth. The most skillful and highly specialized technic in dentistry has failed to stem the tide. The plan of oral cleanliness both chemically and mechanically is viewed by the profession itself with disappointment. Children are brought in for dental cleaning and filling and in thirty days the fillings are loose or lost and decay again runs rampant. The discouraged mother criticizes the dentist, little realizing that she is asking and expecting the impossible. Little does the dentist realize that with only the knowledge of the past he is attempting the impossible. The indifferent dentist became discouraged long ago, and advised the mother to let the teeth alone, save for cleaning. We hear this comment daily from mother's returning from a visit to their dentist. In the experience of the past he has considerable reason on his side, but in our knowledge of newer nutrition his advice is unsafe. The pioneers among the profession have strained to the utmost their ingenuity and thought to discover why dental caries has advanced with civilization. In Stratford, Conn. says Dr. Hartman(1), five hundred and fifty children were examined. Only one was found with teeth free from decay. The average number of decayed teeth in each child was seven. This was only in the first five grades. This is fairly illustrative of the fact that in schools of the United States, it was difficult to find two per cent of the children with good teeth. An outstanding problem confronts us for solution. With our modern civilization and specialization our race is deteriorating in dental respects.

PREDECESSORS

The Eskimos, before they became civilized, had no word for decayed tooth or toothache.

Among the pastoral tribes of Scotland and Scandinavia, in rural Italy and the Orient, and among the East Indians this is also true. Only after these people became civilized did dental caries develop.

Let us consider the diet of our predecessors and ancestors and also their physical condition. It is reported that in the National Museum at Washington, there are hundreds of skulls of Indians, taken from the Pacific coast. They vary in age from three hundred to five hundred years. These skulls show no signs of tooth decay whatever. The teeth and jaws are all perfectly developed, but show no signs of decay. Another example from Iceland. These people live in a region where it did not pay to farm. They took with them their cattle, sheep, horses and for hundreds of years they lived on practically a carnivorous diet. Milk, mutton, fish, fowls, eggs and wild fowl constituted their diet, and as long as they lived upon essentially a carnivorous diet there were no signs of decay, but in the last seventy-five years they have been going into a stage of physical deterioration and dental decay.

Mr. Stevenson, the Arctic explorer tells of ninety-six skulls found in Iceland. Skulls dating back from the ninth century, and in none of them was there evidence of tooth decay, excepting some that showed signs of unmistakable mechanical injury. But the Icelanders of this generation are suffering with both tooth and skeletal degenerations. This is due directly to the contact of the people of Iceland with those of other parts of the world; that is, they have come to live more and more like our housewife, who lives from a paper sack upon the things that she carries home from the corner grocery store.

(2) Another type, the American Indians, were wonderful specimens of physical development, so reports Dr. Clark, and the older Indians, even in the reservations of Wisconsin, Minnesota and Montana have good specimens of teeth at the present time, but the younger generation and children show a rapid skeletal and tooth decay. The younger generations of Indians are living like their American brothers, upon the types of food that is furnished them already cooked, and in some cases with

*Read before the Calhoun County Medical Society in July, 1922.

an advertisement upon the can "Predigested." The same condition is true of the Eskimos, the Laps, and the pastoral tribes of Asia and Africa. The people of the Orient, of Switzerland, Scandinavia and parts of Scotland, Ireland and the Hebrides have been highly successful with their nutrition because of the diet which they used in the past, but now they show deficient dental apparatus. The Sioux Indians are a tribe which have shown in past generations a normal occlusion, but the present generation shows a deficiency occlusion in at least fifty per cent of the cases. There are two etiological factors, the first, of course, is associated directly with nasal obstruction and tonsillar hypertrophy, but these diseases are very uncommon among the Sioux Indians. Therefore, they may be excluded as a causal factor. The etiology must be sought in the kind and class of foods. In this respect we notice the eating habits of the Indians have completely changed, and now he lives upon things purchased from the grocery store on the reservation, and it is no longer necessary for him to use his teeth for hard crushing or to use his front teeth for tearing, both of which are considered by McKay(3) as an etiological factor in malocclusion. This change has been brought about in two generations.

The question naturally arises why have our predecessors and the early tribes been free from dental caries? They came from all climates of the world. They lived on entirely different diets, grading from the carnivorous type of the Arctic on the one hand to the omnivorous diet of the orientals on the other, yet our museums show in past tribes and in the pure tribes today wonderful freedom from dental caries. Can diet then possibly be a factor in preventing or producing dental caries?

WILD ANIMALS

Hunters and explorers, relating their experience with animals in the wild natural state invariably mention their wonderful dental and skeletal apparatus. For example the tiger, the lion, the wolf are all strictly carnivorous. The bison the horses and the cattle of the western plains are all strictly herbivorous, yet their dental and skeletal apparatus are specimens of marvel. We note that the bear, cat and dog, whose diets are omnivorous have a wonderful apparatus, when not too domesticated. Why such unusually splendid teeth? Here are three kinds of animals on three different types of diet, yet their teeth are uniformly perfect. Can diet be a determining factor?

CIVILIZED TRIBES

Let us examine the records of the English speaking people today, because they show the greatest abnormality in dental apparatus. Con-

trast the records of our predecessors, contrast the records of the animal world, if you will, with the report of Dr. Clark of the District Health Survey at Washington, who has examined thousands of school children in the United States, and states that ninety per cent of the school children in this country have from one to eleven cavities in their teeth. We also learn from experience that the number of bad teeth parallels the other signs of physical inferiority. With the decayed teeth you often find malocclusion, deformed jaws, mobile jaws, fatigue posture, fatigue expression on the face, anemia, indolent habits of mind, flat feet, bow legs, knock knees. Many of these imperfections and many others that we might mention are both companions of high tooth decay.

What factors in civilization are the detrimental ones? Does learning to read and write and spell, and to think have a tendency to produce dental caries? Does our elegant dress and driving high powered cars produce dental caries? No. Civilization alone does not produce dental caries. Here applies the axiom that "A Little Knowledge Is a Dangerous Thing." Is it not possible that the cause may lie in our ignorance of the fundamentals of diet? The gullible public are still confused by the advertising of those food manufacturers who are actuated only by mercenary motives. The dental and medical profession, equally ignorant themselves, have unearthed from some unsuspected source, facts which cast on the eastern horizon a ray of hope for the solution of this great problem. No longer does the thinking public cling to the hope of curing disease and mechanically correcting dental caries. No longer do the alert medical and dental profession emphasize cures as such. Those professions originally dealt with the relief from disease, but they have developed within their fold a new department, called prophylactic or preventive medicine. This new department is a child that has already outstripped its parents. It is this prophylaxis that fosters this paper.

Is it possible that by diet, malnutrition, dental caries and many deficiency diseases may be prevented? Of course, we realize one limitation. We appreciate that a child's inheritance is its determining factor, and we have no power within our control to influence the germ plasm. Let us investigate the dietetic side of this problem.

Five classes of food are essential to normal development.

(1) Fats, known generally as hydro carbons, used in a general way in the production of heat, energy and deposition of adipose tissue.

(2) Carbo hydrates, which also are used generally for the production of heat, energy and deposition of adipose tissue.

(3) Proteids, used generally in the build-

ing of organic tissue, or may be used as a substitute for the other forms of food.

(4) Minerals, sodium, potassium, magnesium, chlorine, phosphorus, iodine, sulphur and iron, are all indispensable factors in the development of all tissues and bone and teeth.

(5) Vitamins, known for the lack of better terms as Fat Soluble A, Water Soluble B and Water Soluble C.

FATS

Welker(4) maintains that it is highly desirable that individuals must not be over fed in any particular kind of food, and he summarizes several medical writers with the statement that an excessive amount of adipose tissue predisposes that individual to diabetes. The fat individual has much less resistance to certain types of infection than the one of normal weight, hence, it appears that excessive weight has a tendency to shorten the span of life. Joslin states that at the present time there are 1,400,000 diabetics in the United States, and that because the treatment of the disease is so universally unsatisfactory, we must seek preventative measures.

PROTEIDS

Dr. McCollum(6) of Johns Hopkins University has carried on a series of about four thousand experiments extending over a period of twelve years. He has used the ordinary laboratory rat, the omnivorous type with the average three year span of life. None of these animals can be made to live more than three years, the average length of their life being about two and one-half years. He has been able to produce very spectacular results with the diet and he has been able to foretell just the results that he could obtain in any given pair of rats by their diet. For example, he may be able to make a pair of rats live to the full three years, have a normal growth of hair, teeth, skeleton, reproduce regularly, and suckle their young, all of which may live and grow to the age of reproduction. He may take another pair of rats and so modify their diet that they will grow rapidly until about half the adult size, then rapidly deteriorate within two months. These rats, instead of maintaining a normal condition after they reach the adult growth begin to deteriorate rapidly. Again he may so modify the diet as to make the rats show when only half grown or even fully grown, a thinness of hair and lack of luster, unevenness in the length of hair and a very irritable nervous system. Rats have a very characteristic attitude, just as human beings and when once seen it may be easily recognized. They have a normal expression and normal color and luster of the hair, and have no apprehension of danger. They do not mind being handled. McCollum has taken some of these

rats and by changing the proteid only in the diet he has been able to produce infanticidal tendency in the mothers and they invariably destroy their own young within the first day or two after birth. Another example, is a family of rats that is deficient in proteid only. These are one type of border-line malnutrition. They are capable of reproducing and while the mother is upon this diet, deficient in proteids only, she may bear two or three litters and destroy them all within a day or two. If the diet is changed, improving only the quality of proteid in her diet, and she is rebred, she can raise two or more litters of young rats and raise one hundred per cent of them, and the tendency to destroy her young has disappeared. She has been changed from a nervous, irritable, apprehensive rat, with infanticidal tendencies, characteristic of an abnormal psychic reaction, which is one of the fundamental attributes of a disturbed nervous system, to a perfectly normal, motherly attitude of mind.

MINERALS

Another example, if the diet is all normal, except that it is too low in calcium, the rat will show very different peculiarities. It will not grow under such circumstances, but remain stunted. An experimental rat in such a condition is under nourished, suffers from insomnia, shows no interest in its surroundings. It is completely upset on account of the absence of calcium in its diet, it is fearful and it is almost impossible to catch it, and in its fright it may attempt to kill itself. By feeding this rat some precipitated chalk in the proper amounts, changing nothing else in its diet, it will become in two or three weeks, calm, quiet, a veritable pet.

Dr. Grives of Baltimore has examined the teeth and skulls of about thirteen hundred experimental animals, representing a wide range of medical diseases, and in this series of experiments it was possible to duplicate lesions of human dental defects. All of these animals experimented upon were left in the same room, same sun light, same temperature, same ventilation, same exercise. The diet was the only different factor, and with this one modification in their lives McCollum has produced in certain cases a magnificent dental apparatus that lasts throughout life. In other cases he has produced pulp exposure in the incisors and in the molars. He has also obtained abscesses in the apices of the teeth by an unbalanced diet.

Percy R. Howe(7), has shown that by feeding vitamin deficient diets a decalcification of the teeth occurred, even though a sufficient amount of calcium was furnished. The decalcification of the teeth appears to begin at the tips. The occluding surfaces of the molars became matted out by mastication. In some teeth, decayed portions of the enamel adhered

to the decalcified dental matrix. This enamel eventually crumbled to pieces leaving only decalcified dentine. This decalcified tooth, of course, could be readily penetrated. Decalcification also occurred between the incisors in some instances, and in some cases it appeared as a band across the incisors, resembling very closely a decay. Continuing the experiment further, Howe has been able to show how calcification of the maxilla is easily produced by inserting the proper vitamins in the diet. In the various tests upon animals it was shown that in those upon Fat Soluble A and Water Soluble B deficient diets, the changes visible to the naked eye upon the teeth were not nearly as noticeable as those of the animals that were kept upon a Vitamin C deficient diet. In those with the Fat Soluble A deficient, the teeth were shortened and appeared to be worn down, the enamel presenting areas that were frosted, but in the animals upon the Vitamin C deficient diet, there was a marked decalcification of the teeth. In one animal the molars of the lower jaw were decayed and rubbed off of the lingual side until the grinding surfaces were gone. The molars were all malposed and the first molars of the maxilla touched one another across the tongue. The lower incisors had become hollowed out so that a probe could readily be passed into the tooth for some distance. The enamel at the incisor part was thin, transparent and unsupported by dentine. Controls in both of these classes of cases were absolutely normal. Howe feels that the relation of the three vitamins, and the mineral content of the diet are important factors in dental caries.

Bunting has shown that there is much greater susceptibility to the decay of the teeth where the calcium content of the saliva is comparatively low, and the use of inorganic salts containing calcium is a great benefit. The high calcium content of saliva tends toward the maintenance of a hard, smooth surface of the teeth, and it is particularly important that there be a diet high in inorganic content during the early development of the baby, and also the same applies to the diet of the mother during pregnancy.

A. P. Rogers(8) referring to occlusion maintains that the child has many habits forced upon him which tend to influence the development of the entire body. Habits of eating in most civilized countries and especially in America are such as to limit the functional activities of the parts to their minimum effort. The stimuli received by exercise where functional activity is normal for that individual, cannot help but develop the organism more nearly to its proper size and strength. This functional activity of the child, being required to chew grains, cereals, nuts, vegetables, fruits, etc., has a marked tendency to help the general develop-

ment of the teeth and jaws. The taking of foods so completely cooked and completely softened that no mastication is necessary, and the taking of foods in concentrated form only, brings about a weakening of the jaws and teeth.

E. C. Kirk(9), points out that in the growing child there is a harmonious synchronism between the root growth and teeth observed as a delicately balanced mechanism, a sort of moving equilibrium dependent for its stability upon the nutritional and physiological balance of the entire infant's organism. During this period of dentitional stress, poor child hygiene, improper food, indigestion or physical irritation may affect the organism so as to produce a discord between the root growth and the absorption of the tissues over-lying the tooth crown. This causes a downward pressure at the undeveloped root end against the papilla producing a pathological dentition.

CARBO HYDRATES

H. J. Johns(5), Cleveland, Ohio, has shown conclusively that some have a predisposition to diabetes, and that in his experience by testing the glucose tolerance of the blood and also the glucose content of the blood he has been able to prove that there are many cases of diabetes which do not actually show sugar in the urine. By predisposition to diabetes he means those cases which after receiving 100 grams of glucose on a fasting stomach show a slow rise in blood sugar content, and a very slow fall to normal requiring more than three hours and no glycosuria. He has also shown that this occurs universally in people who over eat, particularly carbo hydrates, and as a result have too much adipose tissue. He has also proven that by a restriction of the carbo hydrates in these predisposed cases he is able to prevent the actual occurrence of diabetes. Dr. Johns, says that it will be possible in the future by testing the blood glucose tolerance of all adolescents to outline in a general way their diets so as to very materially reduce the number of diabetics in this country.

It is well known that the end result of cane sugar in the system is lactic acid, and it has been particularly well demonstrated that excessive amounts of lactic acid uses up or lessens the alkalinity of the blood and that the saliva loses its alkalinity, or the alkalinity of the saliva is reduced, so that certain classes of bacteria that live in slightly acid media become active, and the toxins from the bacteria produce the destruction of enamel. Hence, any kind of food that has a tendency to lower the alkalinity of the saliva is an important etiological factor in the production of dental caries. P. R. Thomas(10), maintains that candy, and carbo hydrates in other forms, are the worst enemy of sound teeth, for the reason

that the destruction of the teeth by caries is most easily induced by chemical substance lodged about the teeth. Hence, the importance of keeping the teeth clean.

Dr. Wiley(11), says that while sugar is an important food and is present in natural foods in very considerable quantities, it is not a natural food in its refined state. Sugar and candy do not form any tissue excepting fat. They nourish no bones or muscles. They do not enter into the structure of any brain or nerve cell and are not a part of any tooth or alveolar process. At a meeting of the school committee at Newton, Mass., October 18th, 1921, it was voted that the sale of chocolate and candy should not be allowed in the elementary schools of that city. This was passed upon as the result of questionnaires sent to specialists in physiology and nutrition. Twenty-seven replies were received in answer to these questionnaires, whether these sugars should be sold to school children. Twenty-five of the specialists replied in the negative. Two reported that it might be sold to them in small amounts if other foods were included.

Geo. E. Cornforth(12), states that we are eating altogether too much sugar and that we take it in too concentrated a form. He suggests that if we eat sugar in no more concentrated form than that in which it grows, we would not eat enough to do us any harm, but in the concentrated form of candy, confectionary, jam, jelly, syrups, juice from canned fruit, etc., it is so nutritious that it is very easy to eat enough of it to be detrimental to our health. The refining process of cane sugar removes some of the very valuable mineral salts that are necessary for the development of a child's teeth. Sugar cane juice is found to be health giving when fed to babies, while cane sugar when included too largely in the diet makes the building of sound teeth impossible, because its lime deficiency allows a decalcification, but in sugar cane there is an abundance of lime. Concentrated sugar is so nutritious that it actually satisfies and takes away the appetite so that there is no desire to eat wholesome foods.

Walter Secombe(13), states that authorities are agreed that in modern life there is a serious over-indulgence of carbohydrates and particularly of refined sugars. He has compiled statistics showing that in the United States there has been an increase of five hundred per cent in fifty years. That in the year 1865 there were eighteen pounds of sugar consumed per capita, but that in the year 1919 there were one hundred and ten pounds consumed per capita. In Canada the amount consumed was ninety-five pounds per capita. It is a fact, that countries with lower sugar consumption suffer less from dental caries. Government statistics indicate that the over-indul-

gence of sugar is most marked in the English speaking countries where dental diseases are most prevalent. One hundred and ten pounds of sugar is an average of over five ounces a day, and a man working hard in the open air can barely consume or oxidize that amount. Sugar is a concentrated food and used in excess it invariably irritates the digestive organs.

A case is reported in Preventative Dentistry from the Royal College of Dental Surgeons in London, in which a child twelve months of age had been entirely breast fed. The teeth were erupted at the normal time, almost completely denuded of enamel. There was a marked gingivitis and a tendency toward vomiting. Analysis of the mother's milk showed a very high sugar content and a very low proteid. The mother's diet had been confined entirely to bread, cake, jelly, jam, with an enormous amount of cane sugar in her tea and coffee. There were four children born in this family, the teeth all in the same condition, due to an unbalanced diet on the part of the mother.

McCollum(14), states that he has had a considerable number of mothers who have nursed their infants and these babies have developed rickets while being nursed, and that these mothers live on a diet of highly milled cereals, beef steak and potatoes. Such a diet is not fit for the production of a balanced milk supply. It is this diet in the nursing mother that is producing rickets so commonly in babies.

VITAMINS

When the United States took over the Philippine Islands in 1898, a small group of scientists were sent to correct the unsanitary conditions in their prisons. Everything pertaining to sanitation was carried out to the last degree, and the scientists saw to it that the rice for the prisoners was white and clean. In spite of all this sanitation, a peculiar disease, which was later called polyneuritis, increased very rapidly. This disease has come to be better known by the name of Beriberi, and is very common in Japan and the Philippine Islands, where the general diet is polished rice. A Dutch scientist, Eykman, produced this same disease experimentally in fowls by feeding them polished rice, and he immediately cured them by feeding them the polishings taken off of the rice. This disease has appeared in all countries. There was an epidemic among the prisoners in Elizabeth, N. J., in July 1914, because they were fed largely upon highly milled cereal products, polished rice, etc. The toll of this disease has run into millions in the last twenty-five years. The principle vitamin lacking in this condition is known as the Water Soluble B vitamin. Its principle source, outside of yeast, is the seeds of plants, eggs, and the milk of animals. Eddy(15) states that meat contains relatively little of this substance,

but glandular organs, such as the liver, kidneys and pancreas are fairly rich in it. It is also found in peas and beans, but in cereal grains it is restricted entirely to the germ portion and is reduced by the high degree of milling to which our cereals are subjected. White flour and polished rice are notable examples of the deficiency of the B vitamin, due to refined milling. Fruits, such as oranges, lemons, tomatoes, apples and grapes, contain a goodly amount of vitamin B. Vegetables, such as carrots, potatoes, turnips, contain a goodly amount. Nuts, eggs, milk and cheese contain Vitamin B in fair abundance. Cooking does not destroy the B vitamin if the temperature is not raised above the boiling point, and no alkalines are added before boiling. It is not necessary to go into further details of this disease of Beriberi, but medical men are familiar with its progressive paralysis of the nervous system, attendant with many other disorders of the body, resulting in coma and death.

Another deficiency disease has been known for centuries to occur among soldiers and sailors, who on account of the long voyages they were compelled to make, were unable to carry a large enough variety of foods for a balanced diet. This disease was commonly known as scurvy, due to the absence of what is called the C vitamin. Now according to Eddy, its richest sources are vegetables, such as cabbage, turnips, lettuce, water cress; fruits such as lemons, oranges, raspberries and tomatoes. Some of the vegetables such as potatoes have a special value in this respect, but meat and prepared milks are very low in antiscorbutic values. The susceptibility of this vitamin to drying and to heat and boiling makes it necessary to scrutinize vegetables very carefully in order not to ruin a good source by an improper preparation of it for the table. As soon as the cause of scurvy had been discovered, it became a matter of history until it suddenly appeared among infants. Medical men in attempting to protect and guard infants against such diseases as typhoid fever, tuberculosis, septic sore throats, etc., advocated thorough boiling or pasturization of the milk, and, inasmuch as Vitamin C is an unstable agent, it was destroyed by this heating process and scurvy became very prevalent among young babies. Now by adding orange juice or lemon juice in small quantities to the milk, scurvy has again passed into history except in the very poor and ignorant communities.

A third Vitamin, known as Fat Soluble A. Its most abundant sources are in milk, butter, egg yolk, fat and the green leaves of plants usually classed as salads, cabbage, lettuce, spinach, carrots and dandelion greens, contain this substance in considerable quantities. The germ of cereal is fairly rich in Fat Soluble A,

but the rest of the grain is deficient, and therefore, the use of refined cereals, such as cream of wheat and white flour are much more deficient than the whole grain. Cooking has practically no effect upon the Fat Soluble A, and little attention need to be paid to the cooking temperature of cereals, as far as the vitamin content is concerned.

According to McCollum(16), the various deficiency diseases have attracted a very great deal of attention among the laboratory workers and scientists in general for several years. The result of treatment of these diseases is very spectacular. For instance, we have seen a very violent, acute case of scurvy cured in a few days by the mere administration of a small amount of orange or lemon juice. Also the curing of Beriberi by merely administering the polishings taken off of rice, also the cure of rickets by the administration of cod liver oil, phosphorus and calcium. In such cases we find that the Fat Soluble Vitamin A, in combination with the salt, calcium and phosphates produce the spectacular cure. However, we must not forget that we no longer encounter the frank out and out cases of these deficiency diseases, but we have border-line cases which are extremely difficult to diagnose. These may be found in what is known as border-line malnutrition, a malnutrition in which the characteristic symptoms of one of the deficiency diseases are either lacking or only slightly suggested. It may be a malnutrition of a type which lowers the efficiency of the individual and breaks down his power of defense against the invasion of micro-organisms. This leads to a more rapid decay of the organism than normally expected. McCollum summarizes the steps that have been made in the last seven years relative to food values and makes the following interesting summary and generalization. It does not matter what the composition of the diet may be. It does not matter what variety of food stuffs it may contain or how the menu may be changed from day to day, so long as the food supply is derived from a list of properly balanced food stuffs. In making up the proper list of food stuffs it will be necessary that we be weaned from many of the prejudices of the past. These prejudices and beliefs have been handed down for generations and are due to two things, first, a misunderstanding of the proper balancing of diets and second, to the convenience of foods. For example, cereals have been heralded throughout the country as being one of the best and important articles of our diet. Now we are just learning that it would be practically impossible to live upon cereals alone, as they are used today. We are victims of circumstances. In the earlier days we did not use cereals to such an extent because the growth of grass

was the great bane of agriculture. With the event of scientific farming, by the use of implements such as the plow, the harrow and the pulverizer, it became possible to overcome the rank growth of grass throughout our prairies and cereals were raised on a large scale. Men with commercial traits of mind were quick to grasp at the advantage of raising enormous amounts of cereals, preparing them for the market in easily handled vehicles and advertising them broadcast as the chief and stable article of diet. It is easy to sell anything that is widely advertised, and thus you may see, that because of various physical conditions, the raising of cereals became possible, its marketing simple, and its use convenient. Now we are learning that it is a distinct detriment to use any one article of food to the exclusion of others.

McCullum(17) has said that there are only three types of diets which afford certainty of any nutrition for man or animal, and only the three will ever suffice. They are first, the strictly carnivorous diet, examples of animals using this diet are the wolf and tiger, and among birds, the vulture. The reason that their diet is strictly balanced is because they consume all parts of the animal they eat. They get not only the plain muscle cuts, such as we get at the market, but they get the glandular tissue such as the liver, the spleen, the pancreas and kidneys, which contain many valuable vitamins, and also the bone and the nerve tissue which also contains other valuable vitamins, so that a strictly carnivorous diet is really a balanced diet.

The second type of diet is that of the grazing or herbivorous type. We have an example in such an animal as the bison, which lives year after year upon the various grasses of the plains. It eats the leaves and shrubs and plants and succeeds in building up and maintaining a healthy nutrition. This may be spoken of as the leaf type of nutrition which is successful.

There is in addition the third type to be considered, known as the oriental or omnivorous type. Arthur H. Bailey of the Experimental Station of Cornell University, who is familiar with the diets of China, has called our attention to this particular type of food. They live upon whole wheat, some pork, eggs, poultry and a small amount of other things, but the outstanding feature of their diet is the green leaf vegetables. The fact that the Orientals put such large quantities of leafy vegetables into their diet has made their life possible. But with this type of diet they are not as well developed physically or mentally, nor as aggressive or strong as those with a more balanced type of diet.

Are we not now in a position to answer some of our own questions? Why have our early

predecessors been free from dental caries? The Eskimos have been living essentially upon a carnivorous diet. They lived upon lean meat and fats from animals, from milk, butter, cream, poultry, eggs of fowls, etc. Why have they been free from dental caries? The wandering Mongolians of Central Asia, the Arabs and Hollanders and some of the pastoral tribes of Northern Scotland, who lived entirely upon dairy products had no dental caries. Why have they been free from dental caries? In light of our newer nutrition by McCollum we appreciate that the carnivora have a balanced diet. The Orientals, who live on an omnivorous diet are on a well balanced diet. They are free from dental caries. Does the balanced diet prevent dental caries? The wild animals, carnivora, are on a balanced diet, for when a tiger devours a calf, he consumes not only the muscles but the fat, the bones, the blood, the liver, the pancreas, spleen and kidneys, and so gets all the forms of food and all three kinds of vitamins. The bison is on a well balanced diet. Its enormous gastro intestinal system makes it possible for it to consume enough of the green leaves and herbs to convey all forms of food and vitamin. It has no dental caries. Does not our knowledge of diet explain the good teeth of the bison?

SUMMARY

We have attempted to point out the various tribes and nations who have been practically free from dental caries. In each of these cases we have pointed out the balanced diet upon which they have existed and which we believe is one of the reasons for perfect dentition. We have also mentioned how these tribes, such as the Indians and Eskimos came in contact with our present civilization, which has changed their methods of diet largely, and how they immediately have become susceptible to the dental caries so characteristic of the great English speaking race. We have mentioned the various types of animals, those belonging to the great carnivora, also those belonging to the herbivora. We have shown how naturally free they have been from dental caries and we have pointed out the similarity between their diet and those of the original tribes. We have shown how their diets contained not only the fat, carbo hydrates and proteids, but the mineral salts and vitamins as well. We have shown furthermore by the experimental method upon various laboratory animals that by changing the articles of diet we were able at will to change their rate of growth, their degree of maturity, their ability to reproduce, their attitude, their longevity, and dental caries as well. We have also shown you by controls in these cases what the controlling factors in the diet are. We have pointed out the various diseases common to civilization which have

been found to be due to deficiencies in the various articles of diet. The chemical influence of diet upon caries has been established, and we come now to offer to you a few simple suggestions as to the treatment which should be instituted, commencing during a child's prenatal life and extending until it reaches maturity. Purely a prophylactic treatment.

Dr. McCollum(18) says the teeth are a part of the skeleton and their development is governed by the same things that govern the growth of the bones. The diet must be adjusted or they will undergo faulty development. He has shown that the lack of balance between the calciums and phosphates and Fat Soluble A is the cause of rickets, in which there is a decalcification of the bones. There is also the same decalcification of the teeth. The enamel is put on the teeth long before they are erupted, it is not deposited simultaneously in a uniform layer over the tooth, but develops from certain centers. One of these centers is started at the apex of the molars and from these points the enamel spreads until the several areas meet. Here they must form a perfect union if the teeth are to be free from decay. As a matter of fact there are common defects in the enamel. It is often too thin to form a satisfactory covering for the teeth. Furthermore, under improper diet the root fails to develop. Thus we have teeth that are susceptible to decay because they are not normally developed. The developmental factor is of cardinal importance from the standpoint of preventative dentistry. It is only the teeth with the best development that can withstand the abuse common to childhood. While mouth hygiene is extremely important and the use of the tooth brush is to be encouraged, yet dental caries is common only among the nations that use the tooth brush. It is actually impossible to keep the teeth bacteriologically clean, therefore, the real factor of fundamental importance in the prevention of tooth decay is a developmental one, and it is important that this developmental process be brought about by the properly balanced diet in the pregnant mother and in the growing infant. The greatest stress should be placed upon the first six years of life, because after the teeth are once erupted, improvement is impossible.

If these principles, advocated by our best men of science are true, then the preventative treatment of dental caries is most important. It demands the awakening of both the medical and dental profession to the new facts and then through the medium of these two wonderful professions an arousing of the general public consciousness to the fact that the solution of this problem is within their own hands. At the present time the faddists and the pseudo authors have the public eye through the popu-

lar magazines. In conjunction with them are the manufacturers who are actuated only by mercenary motives and who are flooding the market with vitamin and yeast vitamin and chocolate yeast and vita food. Let us not be swept away looking for such a panacea. Let us choose for ourselves a diet balanced with fats, proteids, carbo hydrates, minerals and vitamins.

The following generalization may be helpful. This classification covers food materials according to their use in the body.

1. Fuel food—(a) starchy food, corn starch, flour, tapioca, macaroni, spaghetti, crackers, rice, hominy, corn meal, etc., bread. (b) sugar and sweet foods, sugar, molasses, honey, sirups. (c) fat foods, butter, lard, oleomargarine, olive oil, bacon, cream.

2. Building material foods—(a) for muscle, milk, eggs, meat, fish, cheese (cottage and cream), beans, lentils, water. (b) for bones and teeth, milk, green vegetables, fruits.

3. Regulating foods or vitamins—Milk, green vegetables, fruits, water.

4. Growth and health foods—Milk, butter, green vegetables, fruits.

These are general statements, but they are sufficient to convey to you that a man living on cereals, meat and potatoes and fruit is not on a balanced ration. Let us as physicians avoid fads, patent vitamin foods and tablets, predigested foods and extremes of all kinds. Let us apply as much ingenuity and thought to dietetics as we do to the mechanical phase of dentistry and medicine and we will cure one defect which hastens the deterioration of civilization.

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THE ROLE OF ACIDIFIED MILK IN INFANT FEEDING*

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It has long been known that buttermilk or lactic acid milk is a food of great value for infants suffering from disturbances of nutrition. The beneficial effects of this milk have been attributed by some to the lactic acid bacteria present in the milk, and cultures of lactic acid bacteria have been fed to infants suffering from various nutritional disturbances. Metchnikoff attributed the longevity of the Bulgarian peasants to their use of soured milk and the organism called the *Bacillus Bulgaricus* has been used for many conditions both in adults and infants. Recently Rettger of Yale has shown that the *Bacillus Bulgaricus* cannot be permanently transplanted into the intestinal canal and its action consists in allowing the *Bacillus Acidophilus* to develop freely. Rettger advocates the use of *Bacillus Acidophilus* milk in various intestinal conditions instead of *Bacillus Bulgaricus* milk. It has never been definitely proven that the beneficial effects of sour milk in infant feeding have been due to the organisms contained in the milk.

On the other hand a simpler and better explanation has been advanced based on purely chemical facts. These facts have recently been discussed again by Marriott(1). Cow's milk and human milk vary greatly in their "buffer value." The large amount of protein and salts in cow's milk enables it to take up a considerable quantity of hydrochloric acid without a change in chemical reaction. In other words, if we take equal amounts of cow's milk and human milk and add an indicator to each, such as neutral red, we will find that it will take about three times as much hydrochloric acid with cow's milk to cause an acid reaction with the indicator. Hahn(2) has shown that when milk enters the stomach of a normal infant the stomach contents ultimately reach an acidity of 1×10^{-5} , expressed in terms of hydrogenion concentration. This acidity allows rennin action to proceed most advantageously and is sufficient to markedly inhibit bacterial growth. The presence of acid on the gastric side of the pylorus initiates a reflex, called the pyloric-opening reflex, which allows the food to pass into the duodenum. Cowie(3) and Lyon have experimentally demonstrated this reflex in normal infants and have shown that the stomach evacuation is increased in proportion to the amount of acid taken up by the milk proteins (which substances we now properly designate

by the term "buffer substances.") The presence of acid in the duodenum stimulates the flow of biliary and pancreatic enzymes through the hormone, secretin. Thus we can see how important it is that free acid be present in the duodenum. We know that infants suffering from malnutrition or marasmus may have a diminished secretion of hydrochloric acid.

If the amount of hydrochloric acid in the stomach is not sufficient several things happen. Rennin action and bacterial inhibition occur only to a slight degree. Also there is a diminished secretion of pancreatic and biliary ferments. As a result the infant does not digest his food properly and will not thrive. When lactic acid milk is fed to such an infant, the diminished amount of hydrochloric acid will be sufficient, as the buffer substances in the milk have already been neutralized. The milk is well digested and large amounts can be fed with safety so that we can supply the undernourished infant with all the calories he needs. It is easy for anyone to demonstrate this fact for himself if he has not already done so.

A very young infant can safely be fed undiluted milk if it is given in the form of acidified milk, while we would hardly dare to feed undiluted cow's milk to an infant until he has reached the latter part of the first year.

Brennerman(4) has shown that lactic acid milk leaves the stomach very rapidly. His subject was given a pint of buttermilk to drink. In two hours the stomach was nearly empty with practically no curds. This brings up the point of curd formation. The acidified milk is already coagulated and the curds are fine and soft. Recoagulation does not occur in the stomach. This is another advantageous point in infant feeding as it insures complete digestion and absorption of the protein. The view held in this clinic is that the lactic acid milk offers the normal stimulus for the opening duodenal reflex. This, together with the softness of the curd, favors rapid evacuation of the stomach contents.

Incidentally the use of lactic acid milk in infantile eczema may be mentioned. Many of these cases are due to sensitization to the protein of cow's milk. Anything which alters cow's milk protein has a beneficial influence. Cow's milk protein has been altered by boiling, peptonizing and acidifying. Clinically lactic acid milk is a valuable food in eczema.

From these statements it seems clear that much of the beneficial effect of lactic acid milk can be explained on purely chemical grounds. That the bacteria have a beneficial influence is not denied, but it has never been actually proven. It occurred to us to try the effect of lactic acid milk prepared by merely adding C.

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P. lactic acid to cow's milk. Lactic acid can be purchased in a pure state, it is not expensive considering the small amount that is used. It is a heavy syrupy liquid with the characteristic odor. Cow's milk was raised to the boiling point and cooled. Lactic acid was added drop by drop with constant stirring until fine flocculent curds were formed. When this milk was titrated with N/10 NaOH, using phenolphthalein as an indicator, it was found to have a total acidity of about 50. The taste was pleasant and infants took it readily. Infants receiving lactic acid milk made with bacterial cultures were suddenly changed over to this milk. They apparently handled it as well as the other kind. Infants have been fed on this milk for periods of several months to a year with satisfactory gains in weight. Dr. Miller of the Obstetrics Department has used this milk in feeding very young infants with satisfactory results. It is not claimed that lactic acid milk made in this manner is any better than the ordinary lactic acid milk. We were interested in finding out if it was as good. It seemed to offer a clinical means of determining whether the lactic acid bacteria were essential to the success of lactic acid milk. From our results we would say that they are not. This milk can be made up quickly and any mother can be told to drop the acid in the milk until it just curdles. The cost is trifling, as it usually takes about 6 to 8 cc to a quart of milk. Another point is that the acidity of the milk can be absolutely controlled. If buttermilk is too acid it delays the stomach emptying time and causes vomiting.

CONCLUSIONS

1. Milk acidified with lactic acid can apparently be substituted for lactic acid milk prepared by inoculation with bacteria.
2. The value of lactic acid milk seems to be due to chemical changes rather than the bacteria contained in the milk.

1—Marriott, Harvey Lectures, March 27, 1920.

2—Hahn, Am. J. Diseases Child. VII, 305, 1914.

3—Cowie and Lyon, Amer. J. Diseases Child. 1911, 11, 252.

4—Brennerman, Archives Ped. 1917.

A SIMPLE, PRACTICAL METHOD FOR THE FEEDING OF INFANTS*

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We have had a great many requests from physicians visiting the clinic and physicians referring patients to the clinic for a detailed description of the simple routine method of infant feeding we use in the Pediatric Department, University Hospital. This is the reason for

bringing this subject to your attention at this time. It probably would be more to the point to present this paper to that section of the society which is not especially interested in Pediatrics as I fully appreciate that those present are very familiar with the various methods of infant feeding and doubtless have systems of their own which are as simple as the one I wish to present.

I think the pediatricist cannot be expected to feed all the babies that are born. My understanding is that he does not aspire to this position. He rather prefers to have problems presented to him to straighten out, and to devote his time to the study of juvenile medicine. Accordingly, every doctor who engages in general practice, the large percent of which is almost necessarily made up of children, should have at his intelligent command a simple trustworthy method for hand feeding.

The large number of babies attending clinics, not only those conducted at the University Hospital, but particularly those in large cities—Child Welfare Clinics, etc.—illustrate very forcibly that the large majority of family physicians have no practical method for attacking the problem of normal infant feeding. Those of us who have worked in this field for any considerable number of years have necessarily put much thought on this subject. We have not tied ourselves up to any dogmatic scheme of infant feeding, but have varied our own methods from time to time and have tried out the many methods proposed by others.

When I first became interested in the subject of Pediatrics I naturally endeavored to acquaint myself with the better methods in use at that time. The thing that struck me most forcibly then was that the majority of physicians interested in the feeding of infants carried in their pockets a card or booklet of some sort which would enable them to pick out a formula furnishing the desired percentage of fat, protein and carbohydrate, the proper amount for each feed, the feeding intervals, etc., etc. To me this seemed to be entirely wrong. My first idea was to eliminate for myself the necessity for books, notes, and pocket cards. The infant before you, it seemed to me, should be all that was necessary to enable one to choose its food. In order to do this one must have the fundamental knowledge within him to perform the task, the same as one must have the fundamental knowledge of mathematics in order to engage in any business enterprise or proceed with higher mathematics.

As the percentage method, so-called, was in vogue at that time, it seemed to me that a very simple procedure could be very easily worked out whereby a student or a physician could ac-

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tually determine by figuring, without reference to cards, the actual amount of fat, protein, carbohydrate and salts that would be necessary to nourish a given case. It soon became evident that it was fruitless to imitate exactly the percentages found in mother's milk. Mother's milk could be held up as an example of the amounts of the various food constituents that a child could handle. The chief difficulty in modifying milk then seemed to come from the high percentage of protein in cow's milk. The fat, although present in the same amount as in woman's milk, reacted differently in the infant's alimentary canal for well known reasons. The sugar on the other hand was a factor easy to adjust. The longer we studied the problem, the more we became convinced that ordinary milk, sugar, water, and *thought* is all that is necessary to employ in the successful feeding of the very large majority of infants, who for one reason or another, are compelled to be deprived of the benefits of maternal nursing.

There is no longer any question about the ability of the infant's stomach and entire digestive tube to handle the various food constituents with ease. The whole scheme of infant feeding seems to be to determine the individual tolerance to these various food constituents. For this reason it is impossible to lay down a set of formulae which can be handed out from a Maternity Ward or an Infant Welfare Clinic that will fit every infant. It might be wrong to force a parent to keep an infant on such a schedule. The infant must be treated as an individual case. Accordingly there must be definite principles that will apply to him.

With these ideas in mind we gradually developed and have had in use, as our basic method of feeding at the University Hospital, for the past 7 or 8 years, a method which grew out of and is dependant upon the observation I made in reviewing a large series of feeding cases, that the amount of sugar added to the formula very seldom exceeded one ounce. Taking this as a basis it was very easy to work out a simple method which required the knowledge of only a few fundamental principles.

First, the normal infant requires 45 calories per pound or 100 calories per kilogram body weight to maintain its weight. Let us in dealing with the public adapt ourselves to their standards of measure. An ounce can be as accurately weighed as a gram. We were never able to produce stationary weights or moderate gains in weight on 70 calories per kilogram as has been recommended in some of the European clinics. This 45 calories per pound we recognized as the energy line and on our bed-

side charts we have plotted it as the energy line, to the level of which the food must come before we could expect any upward movement in the weight curve. After reaching this energy line we found, if 30 calories more food were added, it furnished a good optimum tolerance line. Many infants can tolerate much more food than this. It should be our aim to develop an infant to his best weight. This best weight is that which may exceed the standard a little, taking into consideration his family type, but not that which enters the threshold of obesity. Some infants grow more rapidly on the energy line than others do on the so-called optimum line. On the other hand many infants thrive, simulate, and metabolize very much larger quantities of food than is indicated by either of these lines. The upper border of the limit of their food utilization we designate as the maximum line or maximum tolerance.

For all practical purposes we are quite sure that an infant who approaches anywhere near the normal weight for his age can be started on a formula which furnishes 45 calories per pound. If the child is underweight, and particularly if the child has had any abnormal reaction to the food previously fed, we start the formula below the energy line, always assuring the parent that we expect no increase in the baby's weight until the food reaches the line or until the infant adjusts itself to the mixture prescribed. This latter point is a very important one. You have all had experience with infants who are thriving beautifully on what we might call bad mixtures. An infant will adapt himself to almost any kind of food if he is given a chance. It is the frequent changing of bad formulas that are productive of so much harm. All changes, particularly in an upward direction, should be very gradual.

After determining upon one ounce of sugar as a constant factor and accepting all sugars—lactose, maltose-dextrin preparations, etc., as containing 120 calories per ounce, it became a very simple problem to know how much milk was necessary for the balance of the daily food. For example, if an infant weighed 10 pounds he would require 10 times 45—120 which equals 330, the number of calories that must come from milk. If there are 21 calories in an ounce of milk (4% milk), 330 divided by 21 equals 15½ ounces, the amount of milk necessary to balance the energy requirement. The rest of the formula is made up with water.

The amount of water to be added depends upon two factors—one of which is *prima facie*, an individual factor; one may consider the anatomic stomach capacity alone or he may have to consider the physiologic stomach capacity. A safe rule, one which we have proved

out many times, is, that the stomach will hold one ounce more than the infant is months old up to 8 ounces, 8 ounces being the maximum size feed for the first year.

The question of concentration will be raised at this point for it will be found by adhering closely to this rule that some infants, even though young, may be compelled to take a much more concentrated food than has usually been thought safe or best. I think as the knowledge of infant feeding progresses, we are becoming more convinced that concentrated solutions very frequently react better in an infant's stomach than dilute solutions. It is my opinion that the greatest difficulty in the early days of infancy may come from the concentration that would naturally result from the application of this rule. On the other hand, should it occur, only a little *thought* would be necessary to enable one to determine that the infant could take a little more water in each feed, thus lessening the concentration. The physiologic stomach capacity is easily determined by the passage of a gastric catheter at the end of the feeding interval. It should not be forgotten when thinking of concentration or dilution that 80% of the milk added to a formula is water.

If one should feed such a mixture as described above, even in proper amounts and at the most proper times, he might almost surely experience failure. He might even be justified in condemning the method. The entire success of this method depends upon a fact which has been demonstrated over and over again, but which has not yet permeated the entire medical profession, and particularly the workers in Child Welfare establishments, that boiled cow's milk or heated milk is much more easily digested, and much more easily handled by the infant's digestive tube than fresh milk. As soon as physicians who are wedded to the idea of fresh certified milk recognize this fact just so soon, I believe, will their difficulties in the intelligent management of infant feeding disappear. This fact in no way depreciates the beneficial effects derived from pure fresh certified milk, providing the milk does not contain more than 4% fat. A milk poor in fat is much better, on general principles, than a milk rich in fat if we are going to feed whole milk dilutions. Whole milk dilutions are much better than cream dilutions for the simple reason that the percentage of fat in whole milk varies very little, usually not more than 1%, while gravity cream and centrifugal cream and top milk are notoriously liable to vary in their fat content.

A few more words should be said on the importance of pasteurization or boiling milk. We have had, during the past month, a case

of abdominal tuberculosis in an infant 9 months old. The abdomen was filled with an irregular mass which we diagnosed abdominal tuberculosis, and which on laparotomy proved to be tuberculosis of the mesenteric glands and omentum. Further investigation seems to show that this is a case of bovine tuberculosis. History shows that this child was artificially fed from the week after birth. The milk was not pasteurized or sterilized. As there seems to be every evidence that this case is not of respiratory origin and was not exposed, so far as the parents know to any case of tuberculosis, it seems reasonable to say that had this child been fed by the above method, which insists on sterilization or pasteurization, it would not have developed tuberculosis. Nor can we trust certified milk. I know of a well authenticated case of bovine tuberculosis in an infant who had been fed only certified milk of supposed highest quality. When I speak of pasteurization and sterilization, I do not mean municipal pasteurization or sterilization. I mean the simple pasteurization or sterilization as carried on in the home after the formula has been made up, whether the milk has previously been heated or not. Re-pasteurization or sterilization has not been productive of any harm in my experience.

If one feeds formulae prepared as described up to the present writing, one may still fail to succeed in the feeding of infants in a certain percentage of cases. This food alone is entirely insufficient, even though an infant may go through the first year, attain a normal weight, attain normal physical development as far as we are able to recognize. He may have been robbed of some factor that he should have received in his food that may produce an effect in his constitution. It is a remarkable fact that a comparatively small percent of infants develop scurvy on pasteurized or boiled milk, but as quite a considerable number of cases of scurvy do occur, and because we know that cooked milk as a constant diet may contribute to the development of scurvy, this objection, as all know, may be entirely overcome by the daily feeding of a teaspoonful of orange or tomato juice. This practice is obligatory with the method detailed above.

At first sight one might be led to think that at certain times during the year the amount of sugar present in the infant's food would be greatly in excess. However, if one calculates the percent of sugar present during the first year, induced by the addition of one ounce of sugar to the formula, he will find that it does not reach 7% until the end of the year excepting possibly during the first week or two. The accompanying chart gives a graphic repre-

sentation of the amounts of fat, protein and sugar fed in a hypothetical case for one year. Knowing the amounts of the various food constituents it is a very simple arithmetical task to find the percentages of the various constituents if one cares to know them. It should be remembered that with all methods of infant feeding—so-called percentage methods and caloric methods—the fundamental idea is that a child should not get below his minimum requirements of protein, fat and carbohydrate. By

checking back on this method it will be found that these elements are well within the normal limits. Any excess of protein, so far as experience has shown up to the present time, is not injurious. The mixtures carry sufficient fat to prevent any injury coming from an inadequate amount of fat soluble vitamine. If physicians would spend an hour or two in a careful consideration of this simple plan of infant feeding, it would not be long before the difficult feeding cases would disappear from



To illustrate the amounts and percentages of protein, carbohydrate, and fat that would result from using one ounce of sugar as a constant factor, and varying amounts of milk to make up the total calories. Vegetables and cereals are added to the diet after the eighth month, but do not figure in the chart.

the Welfare Clinics and Baby Clinics in general. Infant mortality would be very much reduced, provided the physician shows an interest in the management of the infant, and instructing the mother in the right way of bringing up her child.

One more point which applies particularly to the abnormal infant—rate of stomach evacuation. If trouble occurs this must be determined. It will frequently be found that an infant who cannot evacuate three ounces of food in three hours will evacuate it perfectly if the load is divided and an ounce is fed every hour, or the infant who cannot evacuate the necessarily large load, delivered to the stomach on a four-hour schedule, may handle it with ease if it is delivered to the stomach in smaller amounts at more frequent intervals.

Having this method of selecting the infant's food well in hand, the further progress of the case depends upon the two variables, milk and water. Additions of milk and water must be made gradually, one-fourth or one-half ounce at a time in the entire daily mixture. This changes the proportions so little that the increased work of the digestive apparatus is usually negligible. On the other hand, stepping up from one-fourth to one-half, or one-half to two-thirds milk is frequently too sudden a change.

It will be understood that the chart simply shows how an infant can be fed up to the end of the first year with milk, sugar and water. We recognize the fact in the actual handling of a case that vegetables and cereals are necessary after the eighth month. Time does not suffice to go into this further.

Having determined the food for a given case how may we give instruction to the mother for the infant's feeding for the succeeding weeks or months as the case may be. It will be observed that by adding two ounces of milk to a mixture there will be enough calories furnished to produce practically a gain of one pound in weight. In practice this often actually happens. After watching the progress of a case and knowing the infant's reaction to the food, one may add one, two, or three ounces of milk by the gradual process— $\frac{1}{4}$ ounce a day or in some cases $\frac{1}{2}$ ounce, until the stated amount is added. So long as the infant makes a normal weekly gain, there is no need for increasing the food.

TREATMENT OF ALIMENTARY INTOXICATION AND REPORT OF CASES

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In 1908, Finkelstein and his colleagues first

introduced the term "Alimentary Intoxication" in naming the condition which had been formerly known as "Cholera Infantum"—"Toxicosis"—"Gastro Intestinal Intoxication"—"Dysentery"—"Infectious Diarrhea"—"Ileocolitis" and "Summer Diarrhea." They considered it a "Food Poisoning," and believed that infection and constitutional abnormalities were chiefly contributory factors because they lowered the infant's tolerance for food, that is, the ability to utilize food without the production of harmful substances. The basis for this belief was due to the fact that many of the symptoms were aggravated when excessive food was given. Finkelstein also laid emphasis upon the following clinical picture—the disturbed sensorium, fever, collapse, diarrhea, heavy breathing, albuminuria, cylinduria, glycosuria, leucocytosis, and rapid loss in weight. Thus is easily diagnosed from the ordinary "Summer Diarrhea," but the treatment is vastly different.

Since that time various explanations have been given as to the causative factors in Alimentary Intoxication. Marriott has, through his recent investigations, brought out the term "Anhydremia." His work on the blood concentration due to the rapid loss of body fluids in this condition, has not altogether changed our methods of treatment, but it has, to a great extent, made us act more quickly in getting some immediate relief to those infants suffering profound shock from rapid dehydration.

In taking up the treatment of alimentary intoxication, I feel that we must lay stress upon the prophylactic treatment. It is my belief that we do not always lay enough emphasis upon the prevention of overheating of infants by clothing, etc.—the care of food, the use of sugar, the promiscuous giving of food from the table, and the general hygienic care of children. We should begin our instruction of mothers early in the spring months in regard to the proper dress for the child, the kind of food to be given, and the general care of the infant during the summer months. We all know the considerable part that heat plays in the development of intestinal disorders. Diarrheas have been produced, experimentally, by overheating. We also know that decomposed food and foods rich in sugar (particularly cane and milk sugars) are instrumental in bringing about a toxic state. It is also a fact, that infants who do not receive the proper amount of fresh air, daily baths, etc., are prone to develop this condition. If we can, by the establishment of more prophylactic baby welfare stations in the larger cities, and of traveling clinics in the outlying districts, give more instruction to mothers of the poorer classes, we will go a long way in the prevention of Alimentary Intoxication.

However, when the toxic symptoms have become established, the strictest treatment must be followed at once. All food must be discontinued immediately, and all emphasis must be placed upon the supplying of fluid, either by mouth, proctoclysis, hyperdermoclysis, intraperitoneally, or intravenously, to make up for the great loss of body fluids by dehydration. As to the giving of this fluid, I have found that the intraperitoneal route, alternating with hypodermoclysis, gives the most satisfactory results. I have been in the habit of giving from 100 to 150 cc. of a 5% glucose solution in normal saline intraperitoneally once in 24 hours, and have given 100 cc. of normal saline by hypodermoclysis twice in 24 hours, thus supplying fluid every eight hours. This is kept up for several days, or until the condition of shock disappears. Soda water (one scant teaspoonful of sodium bicarbonate to a quart of water) or a 2% barley water are given by mouth in small doses as the vomiting permits.

For stimulation I find that the use of caffeine-sodium-benzoate grs. $\frac{1}{2}$ by hypo every four hours is usually enough, but in cases of profound shock, I generally use from 3 to 5 m. of adrenalin hydrochloride (1-1000 solution) by hypo every four hours, or alternate it with from $\frac{1}{2}$ to 1 gr. camphor in oil. If the diarrhea is very severe and the vomiting allows, I am inclined to give bismuth subgallate 5 grs. suspended in acacia every three hours by mouth, and occasionally I have given "paregoric," or the deodorized tincture of opium with this mixture. *Under no consideration do I give any cathartics.*

At the end of from 24 to 48 hours of starvation, feeding must again be instituted in fractional doses at 2 to 3 hour intervals, and, as the weight tends to become stationary, a very cautious and gradual increase may be made both in the dosage and the length of feeding interval.

As to the choice of food, I have found that breast milk (if obtainable) in conjunction with buttermilk, has given the best results in the most severe cases. In other cases I have used with good success, skimmed milk (boiled 10 minutes) together with buttermilk, or bacillus bulgaricus in the culture or tablet form, gradually replacing the skimmed milk with whole milk, and slowly adding some form of malt sugar, such as Dextri-maltose, up to 5%. In some cases where the child had, previously to the acute attack, been poorly nourished, and where subsequently there had developed a state of intestinal decomposition, I have used albumin milk with Dextri-maltose beginning with a 2% solution and increasing gradually to a 5 or even a 7% solution. The indications for the feeding of each individual case must be governed

largely by the previous history, but whatever the choice of food may be, the course of fractional dosage and gradually increased feeding interval must be rigidly adhered to. Additions to the food may be made more rapidly as time goes on and the weight is maintained.

The hygienic treatment must be given its full share of consideration along with the dietetic and medicinal treatment. Fresh air is very essential. The room should be well ventilated, and in the summer months the child should be kept out of doors. The clothing, in hot weather, should consist of a thin cotton band and diaper, or diaper alone. The child should be kept absolutely clean, not only by bathing, but by cleaning the buttocks thoroughly after each bowel movement.

Complications, such as, pyelo-cystitis, otitis media, furunculosis, pneumonia, oedema, convulsions and pemphigus should be watched for and treated as they present themselves.

To illustrate the course of treatment in alimentary intoxication which I have just outlined, I wish to present two case reports.

Case Report 1.—Baby J. M., age 3½ months. Male.

Present illness began five days ago, following a slight head cold. At that time weighed 12 pounds. Had a great many loose stools the first day. Next day the stools increased in number and were very watery. The mother took the child to a clinic, and was advised to give the baby rice water. She followed this advice for three days, but the condition of the child became rapidly worse and she brought the baby to my office.

Physical Examination—The condition of collapse was quite apparent. Temp. 103 R. Respiration very rapid and shallow at times, and then again slow and sighing as in air hunger. Pulse 132—sharp and snappy. Marked dehydration. Weight 9½ pounds. Skin dry and of a grayish tinge. Anterior fontanelle and eyes sunken in. Eyes rolled upward. Ears negative. Pharynx slightly congested. Heart and lungs negative. Abdomen distended. Cried on handling.

Past History—The mother (girl of 18) weaned baby at three weeks. Said her milk dried up. Gave Eagle Brand condensed milk, and the child got along apparently all right. Gained in weight and was generally happy and content. For past month mother has been working and has left the child in care of her younger sister, (age 15). One week ago the baby developed a head cold which had apparently cleared up before the present trouble began.

The child was sent at once to Grace Hospital, and the following treatment instituted.

1. Nothing given by mouth except soda water (one teaspoonful soda bicarbonate to quart of water) in dram doses.

2. 100 cc. of 5% glucose in normal saline given intraperitoneally.

3. Eight hours later, normal saline solution, 100 cc. by hypodermoclysis.

4. Continuous Murphy drip, 30 drops per minute. 5% glucose, 2% soda bicarbonate in normal saline. If not well retained, to be discontinued.

5. Caffein-sodium-benzoate grs. $\frac{1}{2}$ by hypo every four hours.

6. Camphor in oil grs. 1 or Adrenalin Hydrochloride (1-1000 solution) 3 min. if necessary for shock.

Next day the vomiting had ceased and the diarrhea was checked. The temp. however, remained high, about 103° - 104° rectal. I decided to begin feeding that night since the starvation period had been a little over 24 hours. Breast milk was given, $\frac{1}{2}$ oz. every three hours. This dose was increased by 1 dram at each feeding. The child seemed brighter, and the saline and glucose infusions were stopped. The temperature was apparently coming down. On the fourth day, all was going well, when late in the afternoon the temperature shot up, and the child developed signs of shock. I examined the ears, but both drums were clear. The saline and glucose infusions were then resumed, and 3 min. of Adrenalin Hydrochloride (1-1000 solution) were given by hypo q 4 hours in place of the Caffein-sodium-benzoate. After a few days, stimulation was gradually discontinued, as the child seemed brighter, but the infusions were given twice in 24 hours, one intraperitoneally, and the other subcutaneously. Weight had become stationary and the temperature was falling. On the ninth day the temperature again shot up, the child vomited and was very drowsy. One ear drum was bulging. Paracentesis was performed and the temperature dropped. The temperature again rose, the next day, but dropped shortly after the other ear drum was incised. From this point on, the breast milk was gradually increased, and the feeding interval was lengthened also. His weight now was 3.650 kilo. having lost 880 grams in 13 days. About the 21st day the temperature began to rise and fall each day. The ears were draining and there were no signs of mastoiditis. The urine however, showed pus with clumping. Sodium Citrate grs. 5 was then given every 3 hours. The baby was taking the breast milk well, and was slowly gaining in weight when on the 29th day, it developed pemphigus. The child was then isolated, and the prognosis looked exceedingly grave. His weight was 3.670 kilo. at that time.

Just about this time Dr. Marriott gave a paper before the Detroit Pediatric Society, and in his paper he stated that he was giving as high as 10% carbohydrates to his atreptic infants. Here was a case of intestinal decomposition resulting from alimentary intoxication and parenteral infection. The baby was then taking 3 oz. of breast milk q 3 hours-8 feedings, so I replaced the soda water which I was giving by mouth with a 5% glucose solution—1 to 3 oz. between feedings, and had the urine examined daily for sugar, but none appeared. The baby took this eagerly so then I increased the breast milk and the feeding intervals to $3\frac{1}{2}$ hours. At this point I began giving Kepler's malt and cod liver oil drams $\frac{1}{2}$ -T. I. D. and orange juice once daily, beginning with one dram and increasing the dose twice a week.

The child recovered from the Pemphigus and returned to the ward after 20 days of isolation, weighing 4.050 kilo. He was getting $4\frac{1}{2}$ oz. breast milk q $3\frac{1}{2}$ hours-6 feedings. He was then gradually taken off the breast milk and put on a mixture of a half cow's milk and 5% Dextri-maltose. From this point on he began to gain from 1 to 2 oz. daily and had a ravenous appetite. About the 65th day he was put on fruit sauces, broth and Zwieback. The bottle feeding was two-thirds milk with 1% oatmeal water as a diluent, with addition of Dextri-maltose and dri-

malt soup extract with wheat flour to make a 5% addition of carbohydrates. The glucose solution by mouth was discontinued. The baby was finally discharged on the 84th day, weighing 5.465 kilo.

He was getting a full diet at that time of fruit sauce, orange juice, vegetables, broth, Zwieback and graham crackers. His formula was $\frac{2}{3}$ milk with a 5% mixture of Dextri-maltose and dri-malt soup extract with wheat flour. He was also getting the malt and cod liver oil drams. $\frac{1}{2}$ T. I. D.

Case Report 2.—Baby J. W. M., age $2\frac{1}{2}$ months. Male.

Present illness began 2 days before entrance into Grace Hospital with severe diarrhea, 10 to 12 stools a day. Some vomiting, fever, drowsiness.

Physical Examination—Pulse rate 130, sharp and snappy. Respirations increased and of the air hunger type. Dehydrated, skin dry with slight grayish tinge. Anterior fontanelle and eyes sunken in. Eyes fairly clear, although rolled upwards at times. Pupils react well to light and accommodation. Ears negative. Heart and lungs negative. Abdomen distended.

Past History—The child was taken from the breast at 3 weeks, because the mother developed puerperal insanity. Various formulae were given but nothing seemed to agree with it. The condition of the child gradually lapsed from a state of acute indigestion into an intestinal decomposition. He had not gained any weight since birth, was constipated, had had a large abscess on chin during past month and was anemic.

The treatment in this case was very similar to that of J. M., except it was only necessary to continue the saline and glucose by hypodermoclysis and intraperitoneally for two days. The choice of food here was skimmed milk (boiled 10 minutes) and buttermilk. This was worked up gradually into $\frac{1}{2}$ milk and 5% Dextri-maltose. The buttermilk was stopped and tablets of *Bacillus bulgaricus* (H. W. D.) were given before the feedings. His weight was 3.345 kilo. (lowest weight) 11 days after entrance to hospital when he weighed 3.670 kilo. His gain in weight was slow, and same to a standstill about the 24th day. Examination of the blood showed a hemoglobin of 68% sahl. He was then given iron citrate grs. 3-4 by hypo twice a week, and malt and cod liver oil, drams $\frac{1}{2}$ T. I. D. After six injections of iron citrate his hemoglobin was 75% sahl. His appetite had increased and his gain in weight was from 1 to 2 oz. daily.

FEEDING OF INFANTS AND CHILDREN

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During the past few years laboratory studies have added much to our knowledge of nutrition.

These studies have altered many of the conceptions which have been previously considered as fundamental and have placed certain empirical procedures on a rational basis. Nearly every aspect of the nutritional problem has been attack. It involves an entire restatement of the requirements both as relates to quantity and quality of food intake.

The general statement of Rubner & Heubner that 100 calories per kilo in 24 hours were sufficient during the first 6 months of life must be revised since it has been shown that a very active infant needs more while a quiet one needs less; in the premature infant Talbot has shown that 175 cal per kilo must be fed before establishing a satisfactory gain in weight; Marriott has divided diets for infants suffering from malnutrition in which as high as 200 cal per kilo can be advantageously ingested.

The varieties mentioned for the infant holds equally well for children. The periods of growth between the ages of two and fifteen were until recently shrouded in mystery. The infant and adult had been fairly well studied. In the absence of definite data it was assumed that there was a gradual lessening need from infancy (100 calories per kilo) to the adult (50 calories per kilo). This assumption was entirely fallacious. Through the work of DuBois our knowledge has been greatly increased. In the light of the facts elicited our conception of physiological needs of growing children has been altered so that their larger appetites no longer should be considered as abnormal, but only the response of physiological demands and *Oliver Twists* demand for "more" is now fully justified. Indeed between the ages of 12 and 18, girls should eat more than their mothers, and between the ages of 14 and 18 boys eat more than their fathers. This is greatly increased demand is due largely to the changing factor of activity which gradually increases during the life of the child and makes up about 40% of the requirements during the period of adolescence.

The factor of growth while very large in infancy; viz 45%, gradually diminishes to about 9%, just before puberty, when it rises to about 13%, according to Dr. Holt. These two factors, growth and activity together, make up the bulk of this greater demand in later childhood.

Turning out attention to the quality of the food ingested. It is in this particular field that much knowledge has been gained. In the earlier statements we were told that for the maintenance of life, certain irreducible minimums were required in protein, fat and carbohydrate, later the importance of mineral salts was stressed, but today our conceptions have been broadened and in respect to protein, we want to know its source, whether animal or vegetable. We want to know its constituent amino acids to determine whether it is capable of building animal tissue. We want to know its "buffer value" since it relates to the absorption of the hydrochloric acid of the gastric juice and we further require to know whether it acts

as a sensitizing agent in the production of asthma or eczema. As a general rule 15% of the caloric intake should be in protein. While this much is not actually utilized, yet because of the varying amounts of amino acid in foods, it is necessary to feed in excess that a proper selection may be made.

The fats too are held up for careful scrutiny. We require that at least a portion of the intake shall be glandular fat, (butter fat) as distinguished from stored or non-glandular fat as lard. We must have a certain quantity of animal fat since vegetable fats such as cottonseed oil as found in many butter substitutes are not a carrier of the fat soluble vitamin necessary for growth. Not only the quality of the fats are considered, but the quantity is even more important for we find that in metabolism of fats there are many pitfalls; that unless ample carbohydrate be present in the diet, the oxidation of the fat does not take place completely and Ketosis (acidosis) takes place. Dr. Schloss estimates that one gram of carbohydrate is needed to insure complete oxidation of two and one-half grams of fat and thus protect the infant from Ketosis (acidosis). A child, however, who has developed this condition, needs a much larger intake of carbohydrate, preferably in the form of glucose, as a rule given intravenously.

The empiricism of years has at last found its justification in the use of cod liver oil as an actual dietary product. No longer should it be considered as simply a medicine to cure a disease, but it is the inalienable right of every infant to receive as a part of its diet small portions of this highly charged vitamin A carrier. Two percent of the diet weight of fat in the form of cod liver oil is equal in its protective power to 30% of butter fat. Not only is it rich in vitamin A, but it exerts an unexplained influence on the laying down of calcium and phosphorus in the bones of infants and children suffering from rickets.

I cannot close this brief discussion of the fats without sounding a word of warning concerning the dangers of over-feeding with fats. The properly balanced diet should contain from 25 to 30% of its calories in fat. One should constantly bear in mind the high calory value of a gram of fat, (9.31), considerably over twice as much as either carbohydrate or protein and when whole milk is fed or top milk mixture used, the fat portion quickly passes its optimum and trouble ensues. Whole milk has 51% of its calories in fat and in order to give a balanced ration containing 25% of its calories in fat, one must provide an ample carbohydrate offset, but this cannot be done if too much milk is consumed as the appetite is satisfied with its

milk intake and it is difficult to feed a sufficient quantity of other foods to balance the ration. In children above two years of age, I believe the butter fat portion of the diet can well be supplied by the use of one pint of whole milk, and if more milk is consumed, it should be partially skimmed in order not to over-feed with butter fat.

We have next to consider the carbohydrates (sugars, dextrins and starch). In children this is represented by sugars cereals, vegetables and fruits. It is not many years ago that textbook on Pediatrics recommended that starches be not introduced into the diet until after the first year. Through the combination of sugars and dextrins we are able to begin intensive carbohydrate feeding as early as the second month and introduce cereals and vegetables in the sixth month. Through this early carbohydrate feeding we are better able to supply the optimum balanced ration particularly during the second six months of life. The carbohydrate portion of the infant and child's diet should approximate between 50% and 65% of its caloric intake, but care should be taken that these carbohydrates be properly chosen. White bread and potato, the two most commonly used forms of carbohydrate, are not the ones of choice, both of these being low in vitamin content. The cereals of choice are those made from the whole grain and the vegetables of choice are those in which the leaf or stalk is used. In addition to these fresh or stewed fruits, are introduced early in the second six months of life. Orange juice should be begun as early as the second month, if infant is artificially fed and at six month is breast fed. Orange juice is the carrier of the highest potency of vitamin C yet known, and every infant and child well or sick is protected from scurvy by its use. One and one-half cubic centimeters of orange juice contains as much vitamin C as one pint of milk. The leaf of cabbage carries a high proportion of vitamin C and some method should be devised for making use of this vegetable for infants and children. It is strange that we so often say, give all vegetables but cabbage. Another very cheap protector against scurvy is tomato juice. I personally have had but little experience with it, but Alfred Hess has used it extensively in institutions, with good results. The infants and child's diet in the times past has been entirely too restricted, but in broadening it, care should be taken to choose satisfactory articles of proven value. Passing to the fourth factor in a well-balanced diet we must deal with the mineral salts. Perhaps the most startling findings have been in the study of calcium and phosphorus and a ratio has been established for

these two elements in relation to food intake. In order to keep the blood serum supplied with the optimum amount of calcium, i. e., so that there shall be above 10 milligram of calcium for each 100 cc. of serum, there should be a daily intake of at least 640 milligrams of calcium for each 100 grams of ration and 493 milligrams of phosphorus for each 100 grams of ration ingested in order that there may be sufficient phosphorus to keep above 4 mg. phosphorus in each 100 cc. of blood serum. With this intake the ratio of calcium to phosphorus will be such that rickets will not be likely to develop since Howland has shown that if either of these fall below a point so that the product of their milligram content in 100 cc. of serum is less than 30, the condition of rickets is sure to follow. I have referred to the condition of Ketosis in which the alkali reserve is greatly altered. For years we believed that the giving of bicarbonate of soda intravenously and by mouth was the correct procedure. As already mentioned the proper procedure is to use glucose solution intravenously by rectum and mouth.

Seasonal variations of food stuffs requires us to vary our diets accordingly.

It has been found that in the winter months cow's milk contains one-third less vitamin A than during the summer months. It is therefore necessary that during winter we supplement cow's milk with yolk of egg or preferably cod liver oil. Summer months with the longer hours of sunshine, has been found to be the time when rickets is less likely to develop. This is explained by the recent finding that sunshine has the power of affecting favorably the deposition of calcium and phosphorus in the bony structures. Seasonal variations therefore, have direct influence on the utilization of food stuffs.

To summarize:

We are at present in an era of active study and observation resulting in many new and interesting conceptions. We should hold ourselves in readiness to correlate the laboratory findings with our clinical practice.

DISCUSSION

DR. J. C. MONTGOMERY, Detroit: As Dr. Cowie has said, one cannot take a dogmatic attitude towards any feeding method, and it is rather a difficult subject to discuss.

The caloric requirement varies a great deal (and Dr. Hoobler also brought out this point), because of activity and various other factors. I think it is interesting that, having become accustomed to feeding by weight, we now see the attempt to feed by other standards. Pirquet is feeding by size and Maniott by the weight a child should have at his age. It is a different way of getting at the same thing—feeding more by size than by weight. That in a sense is logical because fat is the less active tissue from the metabolic standpoint.

As regards the frequent intervals: As stated, we cannot be dogmatic, and I think we all see cases at times doing not so well on more frequent intervals and which do better on longer ones.

Dr. Hoobler's remark as to recent studies along the lines of nutrition having forced us to make a re-statement of many of our ideas in regard to these things is very true, and it causes me to wonder if we would not perhaps keep the pathological physiology of some of these conditions thoroughly in mind if we spoke of conditions of dehydration and acidosis rather than of intestinal intoxication. I think Finkelstein performed a great service in calling the attention of the profession to intestinal intoxication and clearly pointing out its symptomatology. Now, however, we can quite thoroughly explain those symptoms along the lines of dehydration and acidosis, and I believe we can avoid mental confusion by using these terms rather than that of intestinal intoxication.

DR. D. J. LEVY, Detroit: In regard to the high caloric requirement of the child, this has been dealt with in the recent literature as a somewhat new phase of infant feeding. The principle underlying the so-called high caloric feeding was definitely laid down by Finkelstein a number of years ago and was emphasized in a paper by myself in 1912. Finkelstein says to feed the child according to what he should weigh, and states that the average child weighs 3 kilograms at birth, 4 kilograms at two months, 5 kilograms at four months, and doubles its birth weight at six months. This is taken simply as a standard. Also, following the idea of Finkelstein, he says that the child for the first three months should receive 100 calories per kilogram of weight, for the second three months should receive 90, for the third quarter 80, and for the fourth quarter 70 calories per kilogram of body weight. That determines the child's requirements. That is not high calories feeding in the case of the normal child, but if the child at the age of six months weighs only half what it should weigh, then when one gives 180 calories per kilogram of weight, he is merely feeding it on the conventional principle of 90 calories per kilogram of what it should weigh. So there isn't anything different about that. The figures I have given appear in the literature and are easily available. So the principle of high calories feeding is not anything new, and it is not inconsistent with the principles we apply in our caloric feeding every day.

I am very glad that Dr. Hoobler saw fit to bring into the discussion the feeding of the child beyond the age of infancy; that is, the child in the second year of life. It is a phase of child feeding which we have neglected in a measure and one of the most important things with which we as pediatricians have to deal.

To my mind the most important principle in the feeding of a child in the second year is to give it less milk and more of other things. The underlying theory of this has been gone into. Going farther than Dr. Hoobler indicated, I would say that the child beyond the age of a year should receive a maximum of a pint and one-half of milk in 24 hours, including 10 oz. for breakfast and 10 oz. for supper. If the child receives a larger quantity of milk than that the tendency is towards constipation. That constipation means the elimination in the stool of calcium and magnesium. The lime that should be deposited in the bony structure is lost in the stool, rickets results, and we have in addition an anemic child instead of one who, had he received small milk feedings and large quantities relatively of fruits, vegetables, broths and cereals, would have presented a different nutritional picture. We will see a smaller number of cases of acidosis in our older children if we give them less milk in the second year and more granulated sugar over their cereals and cooked fruits. There is no necessity of depriving the older children of pure sugar candy. Those things are of definite prophylactic benefit which I do not believe can be over-estimated.

I want to ask Dr. Greenthal a question. In a number of infants who have had a large amount of gastric fermentation I have given minute doses of dilute hydrochloric acid, and these children have been benefited as far as gastric fermentation is concerned, and also there has been in most instances improved well being as far as nutrition is concerned. I wonder if Dr. Greenthal has ever used hydrochloric acid as well as lactic acid in the pasteurized milk he has described.

In regard to Dr. May's paper, he has described the condition of alimentary intoxication and not the condition of ordinary diarrheas of children in summer. In the ordinary diarrheas of children the treatment he has outlined is absolutely contraindicated, in the one particular of the hunger period. Summer diarrhea should not be classed as a condition of alimentary intoxication. The treatment indicated in alimentary intoxication is unnecessary in the average summer diarrheas and is distinctly harmful as to the starvation imposed in infants that have alimentary decomposition. I want to emphasize the point that while the treatment outlined by Dr. May is indicated and is the correct method of treating such cases as he has described, it is not the treatment for summer diarrheas in general and should not be so held.

DR. HARVEY, Pontiac: Dr. Levy is the only man who has spoken of examination of the stools in cases of intestinal intoxication. I do not see how one could make a diagnosis of intestinal intoxication and indicate the proper treatment, without stool examination. No examination of an infant is complete without stool and urine examination.

In connection with Dr. May's paper, I have had many cases of adenoids in children. Some children when they get a bad cold or infected adenoids have diarrheas, and as soon as the adenoids are taken out they are less susceptible to diarrhea, when by proper diet you are able to bring about an improvement in the general condition.

Dr. May's paper consists of case reports of two children. The first child had an otitis media. I wonder how you are going to get at the feeding of infants without stool examinations. The same thing is true of older children, and I do not think the doctors are in the habit of making such examination.

DR. GIFFEN, TOLEDO, O.: I feel that a great many of our feeding problems in difficult cases are due to causes outside of the intestinal tract altogether. In my own experience I have often found that I could not make the baby do well until I had located some focus of infection outside of the intestinal tract. In some babies it is pyelitis, in other babies it is a middle ear trouble, in other infants adenoids or sinus infection.

In my service at Panama during the war we had a great many Negro babies brought in who, in spite of everything that could be done, would die, and they were all autopsied. We happened to have there a pathologist who was a real scientist and much interested in his work, and he went to the trouble of making complete dissection of the middle ear in all these infants. I do not remember just how many there had been when I left, but there were somewhat more than 100 cases, and he found pus in the middle ear in over 90 per cent of those babies, and in the mastoid cells themselves in many babies dying with no symptoms that were referable to the ear. I had the ear specialist make the rounds with me and he would pick out about half of these babies before they died. There was no typical sign of infection behind those drums. The otologist could make a correct guess in about half of them, open them and they would get well. Since my return I took this ear specialist out to the hospital, for I had a few babies not doing well, and in two cases he opened the ear and then the patients began to do well right away. That is a thing I think we should look for.

In regard to lactic acid milk, we use it a great deal under the old method, with considerable success in a great many cases. But there is one thing I am not quite clear about in this connection, and that is this: As I remember, Dr. Green-thal claims that he was able to feed a higher carbohydrate diet in the form of corn syrups because of the action of the *B. bulgaricus* on that sugar. If I understand him correctly, what has been his experience at Ann Arbor with lactic acid?

DR. C. H. EISMAN, Detroit: May I ask Dr. Cowie why he limits the amount of sugar to one ounce? Does he determine that empirically, or is there some indication for the amount of lactic acid at feeding time?

DR. HOOBLER: I would like to ask why Dr. Cowie does not use some starch cereals in his formula?

DR. E. E. MILLER, Flint: We have been told the different milks to use and now we want to know when to use them. We get carbohydrate indigestions, diarrhea, fermentation, and around the rectum of the baby you will always find an irritation. There is too much sugar-forming acid. We find in those cases that the baby is getting too much sugar. When you have a proteid indigestion there will be a putrefactive odor from the proteid, but you will not find the soreness that is developed from too much carbohydrate food.

Our method is to use arrow-root when we have this infection, then you can add more carbohydrates. It is always wise to begin with low carbohydrates. Probably a better way is to begin with proteids. I have been using proteids for a week, then if at that time there is a putrefactive odor we begin to add the carbohydrates, otherwise diarrhea develops. Here is a little point I picked up once, and in talking with a man from Brazil, he said it was used extensively there; and that is to use hexamethylenamin and sodium benzoate in these intestinal intoxications. So I used it in the south when living there and found it to be a very good thing. If you do not use plenty of sodium benzoate you get a serious irritation of the bladder. For that reason it is well to use about four to one.

DR. COWIE: So far as my paper is concerned I tried to make it clear that I was simply showing a simple method that could be used by the general practitioner for the feeding of normal infants, not for the feeding of pathological infants, in an attempt to prevent the development of pathology.

The idea of feeding for weight is almost as old as the idea of feeding an infant for its age. I do not think that Dr. May felt he was advancing a new idea when he made that statement. What we should do is to try to develop the baby to its best weight—the weight he should have for his age, we might say. The standard of weight for infants is pretty well established. The difficulty we are having at the present time in the measurements for weight, the standard height, etc., applies particularly to the older children. So I agree with those who have said that we should attempt to bring our babies up to their normal weight. A child that is under-weight should be guardedly pushed as far as he can tolerate food, with food that will make him develop for his weight. We may very frequently find that an under-weight child, as was pointed out years ago, has to be fed very much more food than the child of normal weight.

Dr. Hoobler spoke of cutting out sugar during the second year, and Dr. Levy also spoke of that. I would like to add my approval of that method wherein, in the second year, out goes the sugar and milk, getting the milk out as quickly as possible. That is, we want to get a food containing iron principally. Milk contains no iron. The child that is fed large amounts of milk up to 16 years of age hasn't any "pep." It is a food nature did not intend him to have at that age. He should be gotten away from that very much earlier. In the second year we should cut the milk down to a pint a day. My advice is always

to try and get the baby to eat cereals, vegetables, etc., and then give milk purely as a supplementary food.

Dr. Harvey spoke on the subject of stool examinations. We will I think all admit that this is a very important matter. The differentiation of different kinds of stools you are, I believe, all familiar with, and it as well as urinalysis forms a part of the examination of a child. Examination of the urine is frequently overlooked, but it is very important.

Dr. Eisman asked why we limit the sugar to one ounce. We do not consider this amount low, but that on the contrary it is enough sugar to burn the fat and to carry on all the metabolism. And I think it is a fairly well established idea at the present time that between 5 and 7 per cent of sugar, if the child is doing well, is about the proper amount. We simply want enough sugar to burn the fat and add calories for storing away body tissue.

Dr. Hoobler asked why we do not feed starch up to the twelfth month. We do, we begin at the eighth month. As stated in my paper, at eight months it is a matter of rule. When we feed vegetables and cereals I feel that the eighth month is early enough to begin with. One reason for doing this is that I believe it is better for an infant before he has been sensitized to the various food substances during the early months of infancy than during the later months. The other idea is that we believe the child is endowed with sufficient iron in his system to last for perhaps eight or nine months, and knowing that mother's milk or cow's milk carries no iron. It is the vegetables and fruits that carry iron. Consequently we choose these and add cereals at the same time.

I have simply wished to show how a child could be fed on milk, sugar and water clear to the end of the first year if he did not have anything else, but that he would in that case lack the value coming from carbohydrates and the proper amount of saccharin.

DR. GREENTHAL: In reading over Dr. Abt's book on baby foods, I happened to notice that there is in it a formula for hydrochloric acid milk. If the abnormal fermentation were due to lack of bacterial inhibition, the addition of hydrochloric acid would be a very effective way of checking this abnormal fermentation.

At one time I had the idea that a very good milk for malnourished infants would be produced by adding enough orange juice to the food to precipitate the case in making it so full of vitamins that the baby could not help but grow rapidly. I soon found that this was not a success, because the babies refused to take it. I then tried lactic acid. Another way of attacking the same problem is by the giving of boiled buttermilk as used in Holland, which has been frequently employed. As the buttermilk is boiled of course all the beneficial effects of the lactic acid bacilli are lost.

I want to speak of a point in Dr. May's paper as to the use of glucose intraperitoneally. Glucose used in this way is frequently attended with marked abdominal distention which prevents the giving of more fluid. This distention is not harmful and disappears in a short time. I believe the explanation is that impure glucose develops acids on heating, and the concentration of this glucose solution is far too acid to be introduced into the peritoneal cavity. If we use the C. P. glucose, which, however, is much more expensive, the production of acids will be done away with.

DR. HOOBLER: I am glad that the problem of the quantity of milk to be given after the age of six months was considered by Dr. Levy. That is perhaps better than two years. I believe the practice in home feeding is largely to push the feeding of milk. Therefore when our schools are giving a pint of milk a day and then the

child comes home and gets a pint or more a day, he is getting a quart or more, one pint of which is furnished at the school and the balance at home, just because of the idea of the value of milk in childhood. Now Dr. Levy, Dr. Cowie, and a large number of other pediatricists, have found that this practice has been carried too far. At the same time we must be careful not to let the pendulum swing too far the other way.

I believe Dr. Levy said that 20 to 24 ounces of milk should be given at the age of six months, and then up to 30 until about a year old. I mentioned in my paper that there should be a pint, and if more is given it should be skimmed in order to take away what I believe to be the most damaging factor of too large quantities of milk—too much butter-fat. I think we should go out and try to offset some of the propaganda being published by Woods Hutchinson and a number of other writers in the magazines of the day, and of the creameries which are pushing the sale of their "safe milk," throughout the whole state. I think there is a principle of right and justice in a reasonable amount of milk. Rather than to say a quart of milk a day, let us say a pint of milk for every child. That would be a better slogan than a quart of milk a day. I believe that right now is a critical time for us to work, particularly in the summer months when fat feeding is not handled as well as in colder weather.

Dr. Harvey brought up the question of stool examination. I do not believe we practice that nearly as much as they do in Boston. Perhaps we are not as careful in our laboratory technic. Duebber of Boston wrote an article in which he gave us many descriptions and pictures of stools. My own feeling about it is this: That a man who has at one time analyzed many of these stools in the laboratory can very frequently obtain by a careful visual study of the stool and its characteristics, as appearance, color, etc., as well as by noting its odor, a fairly good representation of what the stool is. It is true one cannot determine whether there is free or neutral fat in it, but he usually can tell whether it is a lactic acid stool or whether an acetic acid stool. But I think the average doctor does not practice that to the extent Dr. Morse does. Now Dr. Morse and Talbot and a number of other eastern men routinely make stool examinations and perhaps build up a reliance on them. But I think the consensus of opinion in the middle west is that the taking into account all the features that may be found by the five senses helps us greatly in stool analyses.

DR. MAY: First, in regard to stool examinations. In the cases I have reported no chemical examination of the stools was made, but each day macroscopical examination of the stools was made and their character determined.

In regard to urinalysis, there is more than one test of the urine. In the cases I have reported the urine was examined twice a week. The urine was examined the day the patient came in, but at that time showed little pus.

In regard to the diarrheas that follow infections, I know that to be true, but I feel, too, that in these cases the parenchymal infection here had something to do with the alimentary intoxication. When I saw the baby first the ear drums were absolutely negative, they were just as clear as any normal drum.

One point I wanted to bring out, Dr. Hoobler spoke of in his discussion—the giving of too much milk. A case in point: Not long ago I had as a patient a girl about 7 or 8 years of age. The history was that on making examination of this child at the school those in authority said that she was too tall for her weight. So they began feeding her during the morning and afternoon sessions with milk and crackers. It got to the point where, when she came home at noon she

would not eat anything and the same in the evening. I had them put a stop to that, and she began eating heartily at her noon and evening meals. Thereafter she received no milk in school.

THE CAUSATIVE FACTOR OF VESSEL COMPRESSION IN UPPER URINARY OBSTRUCTION

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Although most of the older anatomists have described most carefully, the many variations in the vascular supply of the kidney, together with the relations of the vessels to the ureter, and although the accessory arteries and veins so frequently met with in their contiguity to the latter, have for many years held interest for the dissector, it is but comparatively recently that the clinical application of this relativity of regular or irregular structures has received much comment; nor until quite recently has there been such perfection in urological diagnosis and surgical treatment of the pathological conditions caused directly or indirectly therefrom, as to enable one to draw conclusions as to the actual role of these vessels in the production of same.

During the past three years the writer has observed in the dissecting room a considerable number of anomalies in the vascular supply of the kidneys, associated with which in several cases were signs of infection or obstruction to urinary outflow or a combination of both of these conditions. Only relations of normal or aberrant vessels which might be implicated in the etiology of obstruction will be discussed in this communication; namely, those vessels which cross the ureter or pelvis of the kidney, without consideration of upper polar arteries or veins.

Three cases of hydronephrosis, each being associated with obstructing branches, will be described herein, there being nothing unusual about the type of obstruction or about the artery involved, excepting the rather high incidence of hydronephrosis with blood vessel obstruction in routine dissection room observations.

In the majority of normal cases the renal arteries were seen to have their origin from the abdominal aorta at two opposing points, opposite the first lumbar interspace, and leading to the kidneys at nearly right angles; the right often being at a somewhat lower level, and a little longer; crossing the postcava dorsally. Each would usually divide into three or four large branches and, just medial to the hilum, penetrate the substance of the kidney. There was no rule as to their relations to the veins,

but in almost every instance the arterial branches were for the greater part posterior to the veins. The renal veins themselves, were found lying for the most part anterior to the arteries on their way to the venacava, the left receiving the left spermatic at nearly a right angle. The important vessels crossing the ureter normally are the spermatic or ovarian just below its middle, anteriorly; the common iliac dorsally, just as it is about to enter the true pelvis, and in the female, the uterine, posteriorly, as it traverses the broad ligament to reach the bladder, penetrating the uterine plexus of veins. The right ureter is often adjacent to the venacava laterally; the left with the inferior mesenteric vessels posteriorly. The irregular arteries which we shall consider, were aortic branches and anomalous stems from the renals themselves, either going to the lower pole or entering the kidney substance at its hilum, although a greater number of aberrant branches were observed going to the upper pole of the kidney, but are not described here because of their unlikelihood of producing obstructive disturbances. The vessels in this class are usually given off by the renals, aorta or phrenic. More unusual anomalous lower polar branches are reported to have been given off by the inferior mesenteric, the common, and external iliacs; we have not met with these later branches.

Case 1.—Hydronephrotic kidney (right). Aortic branch leaving at a level of the spermatics, and leading to the lower pole, to enter same at its anterior aspect, crossing the ureter dorsally and angulating same at a point a short distance below its pelvic junction. Kidney location normal; capacity of sac, about 60 cc. No other obstruction noted.

Case 2.—Large renal branch entering the lower pole. Left hydronephrosis, of about 50 cc. capacity. The obstructing vessel crossing the ureter anteriorly. Considerable degree of ptosis, a rather long pedicle, and a somewhat anterior displacement of the upper pole, forming a kink in the ureter at the pelvic junction. No other obstruction noted.

Case 3.—Left hydronephrosis, with sac of about 50 cc. capacity. Low aortic branch crossing ureter anteriorly, with anterior rotation of the upper pole, and entrance to renal tissue at pelvis. There appears to be a valve-like formation at the uretero-pelvic juncture.

There are three heads under which any of the factors of compression of the ureter may be placed. Namely: primary, secondary, or both primary and secondary. Thus, there may be an actual compression as in case No. 1, with a resulting obstruction, or there might be a ptosis, with the ureter kinked over a branch with a rotation of one or the other pole of the kidney, as seen in the two other cases. Again one might see a double role on the part of the vessel, which originally, by continuous pressure, or by intermittent pulsation at a strategic point, as at the narrow uretero-pelvic

junction would be capable of producing a moderate degree of obstruction; later, by a ptosis or rotation of the organ, an additional degree of angulation obtaining and from the added inhibition of proper drainage, greater chance for occurrence of, and aggravation of renal infections from hematogenous or lymphogenous sources. In turn, with the added weight of an already congested or beginning dilated kidney, there would be a proportionate increase in a tugging on the compressing vessel, with the vicious circle established.

When one considers the development of the permanent kidney in the mesoderm, its nephrotomes, its segmented lobulated, and finally its fused appearance, its many branches from the aorta, it is not surprising that one should encounter many varied numbers and forms of irregular branches. When one also remembers the migration of the kidney from its early caudal location to its final well protected resting place, through segments, any of which may give it an independent artery, it will be seen that the branches might come from any of the segments through which the organ passes in its ascent. Then, too, the anomalies of location will be seen to have been affected by the source of blood supply. Thus, one case was found where the renals were both given off at a point considerably lower than normal, the source of blood supply determining the location of the organ. Such a case might have been easily diagnosed improperly as one of ptosis. In another instance where there were two anomalous aortic branches, one to each pole, it was interesting to note that evidence of lobulation still existed to a considerable degree.

The mechanism of ureteral obstruction by blood vessels has for the past decade received considerable speculative comment, both in this country and abroad, previous to which, occasional cases of hydronephrosis associated with anomalous vessels passing over the ureter or uretero-pelvic junction were reported; many of the older pathologists denying the factor of such vessels in the production of such; others from time to time claiming either primary or secondary causative effects. Occasional cases were reported from time to time with but little comment made as to the causative element of the associated vessels, and few cases having been treated by division of the offending band for relief of the existing hydronephrosis.

In 1894, Pitt(1) presented five specimens and commented upon the role of anomalous branches in the production of hydronephrosis, two of which were later described by Morris (2) who regarded them as rare specimens, ascribing 90 per cent of hydronephroses to malig-

nancy of the pelvic viscera in his series of 381 cases examined. Somewhat later, Keyes(3) made the statement that pressure from without by an aberrant vessel as a factor in ureteral obstruction is common, but that from pelvic growths, uncommon. He describes a case of obstruction from a spurious branch of the renal vein, producing a marked hydronephrosis. How little this important factor has been considered as a cause of obstructive conditions of the kidney, may be well seen in reviewing sections of the leading works in urology, which treat the question of etiology of hydronephrosis, pyelitis, pyonephrosis and other infections of the upper urinary tract. Many refer to it as a rare condition. Lengueu(4) in 1904 stated his skepticism as to the probability of blood vessels being the cause of a hydronephrosis. Unless the ureter shows an indentation at the point of crossing with dilation above the vessel and unless no other obstructing cause can be found, he does not countenance such as an etiological factor in the production of hydronephrosis. He cites two cases of his own treated by ligation successfully, and one in which an aberrant artery had made such definite pressure upon the uretero-pelvic junction, that he did not depend upon ligation alone for a cure, but removed the kidney at once. He cites a case of Hartman's and one of Picque's, both of which were similar to his and had been dealt with in like manner with equally gratifying results. He is of the opinion that the division must produce a relief of the condition if such a vessel is to be blamed for same.

Conreich(5) believes that compression from this cause will not occur if a vessel destined to supply the anterior portion of the renal substance passes in front of the ureter, or if one going to the posterior aspect crosses behind it. Ekehorn(6) reported a case in which his patient's condition was relieved following ligation and division of an obstructing artery, and at that time was able to collect twenty-four cases from the literature, in which impeding vessels were the etiological factor in the existing hydronephroses. He pointed out the fact that if a vessel crosses the ureter on its ventral side on its way to supply the dorsal portion of the renal tissue, or vice versa, compression might easily follow.

In 1909, Mayo, Braasch and McCarthy(7) reported the largest single series of hydronephrosis cases, in which the cause was ascribed to blood vessel obstruction. They were of the opinion that out of their series of twenty-seven cases, twenty were directly attributable to the above. It is interesting to note that these observers report a great many lower polar arteries passing in front of, as well as those with a

posterior relation to the ureter, as impedimental to urinary outflow. They express their judgment that a good many operations have been performed for similar conditions, in which no cognizance had been taken of the role of compression played by these vessels. They relieved the condition in each instance by ligation and division, together with fixation, and Fenger's operation for enlarging the ureteropelvic junction whenever necessary; although in about fifty per cent of the series, simple ligation and division was all that was required.

Squier(8) states that although cases of this sort do occur, many are imputed to such cause, when the apparent indentation was rather the result than the cause of the dilatation of the ureter; this especially, when a hydronephrosis is associated with abnormal mobility or ptosis. The various views of some of the writers who do mention this important subject in works of urology, are diametrically opposed. Watson and Cunningham(9) state that ligation of a branch of the renal artery itself, results in necrosis of the renal substance, and that ligature and division of such an aberrant, per se, usually results in no improvement of the existing condition. The large number of cases reported by the above mentioned observers as well as the frequent reports of others during the past few years, in which excellent results were obtained by division, would disprove their contentions, although it is not denied that necrosis of that area of renal tissue supplied by the ligated artery does occur. In spite of the loss of a certain amount of kidney tissue, the rapid return to efficient function of the involved organ has in a practical manner demonstrated the usual ability of a portion of the renal tissue to approximate, or to even equal the work of the unaffected fellow.

During the past year several cases were reviewed, notable among which was a series of Rowland's(10), who reports twelve cases of his own, eight of which were previously reported by him(11), in which remarkably good results were obtained following operative treatment, and calls attention to the fact that it is important to look out for abnormal vessels in all operations on the kidney in order that one kinking the ureter might be seen and divided, thus in some cases preventing a second operative interference. He is of the opinion that in a considerable number of cases a plastic operation or anastomosis of the ureteropelvic junction is necessary to overcome the accompanying stricture. In one of his cases a pyonephrosis had already occurred; following the evacuation of pus from which, together with division of the vessels the patient made an uneventful recovery.

Among the more unusual disturbances, and in which the vessel involved was a normal, rather than an aberrant structure, were two cases of hydronephrosis from pressure upon the ureter by the vena cava; the ureter passing behind, instead of in front of that vessel. These were described by Kolisko (11) and Gladstone (12), each of whom reported a post-mortem finding of this interesting and unusual disrelation of structures with resultant inhibition of urinary outflow. This anomaly is believed to have been the result of the failure of the anterior portion of a venous loop which had come to surround the ureter following the kidney's migration cephalad in the embryo to disappear, rather than any maldevelopment of the ureter, itself.

CONCLUSIONS

Abnormal relations of blood vessels are primarily and secondarily involved in the production of obstruction whether they be normal or anomalous veins or arteries. Recent satisfactory results in the radical surgical treatment of such obstructions, by many observers, demonstrate their high incidence in ureter disfunction. Many of our text books might well have included in them a more tangible presentation of the question of vessel obstruction.

610 KRESGE BLDG.

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ENCEPHALITIS LETHARGICA — A CLINICAL STUDY OF TEN CASES*

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This group of ten cases is taken from our hospital service and probably represents the various types of Encephalitis Lethargica seen in the Central States during the winters of 1920 and of 1921.

The wide variety of clinical pictures presented by this particular disease makes studies of group cases unusually valuable. As a basis of this paper we, therefore, present a word analysis of the included chart which is based on symptoms, the time of their appearance and their duration.

The protean manifestations of this disease

are well illustrated by the clinical diagnoses on these patients at the time of admission, i. e., diabetic coma, ptomaine poisoning, pneumonia, appendicitis, methyl alcohol poisoning, fracture of skull and four of encephalitis lethargica.

Etiology: Six of our patients were females and four males. The ages represented were six cases between ten and thirty years of age; one between thirty and forty; and three between fifty and sixty. There was a history of an upper air-tract infection such as tonsillitis, cold, etc. within a month of the onset in half of these patients.

Epidemiology: Seven of the ten cases occurred during the cold months. It is to be noted that in this group there were no two cases within the same family or a history of contact with any known case.

Onset: Sudden and acute illness in four; insidious in six.

Acute Onset: 1: Sudden coma and glycosuria in Case I.

2: Sudden headache, vomiting and fever together with cerebral symptoms in Cases I, III and IV.

Insidious Onset: 1: Respiratory tract infection and delayed neurological symptoms in Cases V, VI and X.

2: Neuritic pains with cerebral symptoms appearing later in Cases VII and VIII.

3: Trauma with delay of inflammatory signs until after the first week in Case IX.

COURSE OF DISEASE

Case I.—This man, age 54, was riding in an automobile when taken with an extremely severe headache, soon followed by vomiting, not projectile in type. He complained of blurred vision and within three hours was unconscious. This unconsciousness deepened into coma which lasted three days and from which he could not be aroused. The urine, on the first day, contained 6% sugar; on the second day sugar had disappeared; on the fourth day definite neurological signs were present. Lethargy with periods of excitement delirium ensued. Recovery in one month.

Case II.—A Russian Jewess, age 50, while working was suddenly taken with headache, vomiting and fever. In a few hours she was delirious. The mental condition rapidly progressed to coma from which she could not be aroused. Myoclonus of various muscles appeared and cranial nerve palsy. Death occurred on the fifth day. Autopsy showed both macroscopically and microscopically the usual picture of encephalitis lethargica, i. e., congestion of meningeal and intra-cerebral capillaries; minute, pepper-like haemorrhages scattered throughout the gray matter of the basal nuclei and mid-brain; in section, perivascular infiltration with small round cells, degeneration of nerve cells, proliferation of the mesoblastic cells of the vessel walls.

Case III.—A 14-year-old boy, while carrying his papers, felt suddenly nauseated and vomited. He was confused, but continued his route. His customers noticed that he talked thickly and he was sent home. Slight fever was present and the boy seemed entirely disinterested in what went on around him. He was quite lethargic and cranial nerve pal-

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sies—seventh, third and eleventh—were present; also myoclonus of muscles of arms and of legs, and diplopia. Death occurred unexpectedly on the third day. Autopsy was not permitted.

Case IV.—Young male adult ate his supper in a restaurant and on the way home felt nauseated and vomited. He had such a severe headache that he was unable to sleep because of it. He tried to go to work on the following morning, but everything seemed blurred and he saw double. During the day he became irrational and later, lethargic. Cranial nerve palsies ensued as did myoclonus of arms and of leg muscles.

The disease ran a mild course and the patient seemed to be nearly well, when, on the fourteenth day, a recurrent sudden onset appeared with coma. Death in two days. Autopsy differed from the usual picture only in that all the evidence of fresh oozing of blood appeared in the basal nuclei on one side—apparently the most recent invasion.

Case V.—A woman, 60 years of age, had an acute sore throat with fever and vomiting. Four days later mental confusion, drowsiness, and myoclonus of muscles of arms and of legs appeared. Headache was persistent. She remained lethargic for two weeks when coma appeared. Just before death, which occurred on the nineteenth day, cranial nerve palsies became evident, and choreiform twitchings. Autopsy refused.

Case VI.—Female, age 18, had a cold; duration about two weeks. Felt very tired and weak during this time. Had some blurred vision and transient diplopia. On fourteenth day vomited and had severe pains over both recti muscles and myoclonus of legs and of face muscles. This patient continued in a mild lethargy for about two weeks. Her pulse was very rapid and respirations above thirty. Transient aphonia was also present. Recovery in one month with residuum of myoclonus and some emotionalism.

Case VII.—A young, married woman, eight months pregnant. Had a cold in head and some pain. She complained considerably of neuritic pains in face, arms and both legs. Had marked insomnia but felt sleepy and dull. Mentally she was confused and talked at random. Had myoclonus of muscles of arm, opposite shoulder, and of both legs. Urine and blood nitrogen, normal. Premature labor induced; normal, healthy baby obtained and good recovery of mother.

Case VIII.—Male laborer, age 27, attended a "home-brew party." This celebration was followed by headache, vomiting and general dull feeling. Had considerable neuritic pain in face and limbs. On fourth day became confused and vision was blurred and double. Lethargy became quite marked and persisted for two weeks. Recovery in one month with residuum of neuritic pain over left temporal region.

Case IX.—A little girl, 11 years old, fell from a small stool, striking her head on the floor. She was somewhat dazed and complained of headache and dizziness. On the eighth day complained of severe pains in back and legs. During the night vomited and had convulsions involving hands, legs, face and head. She seemed stuporous and later became irrational. Myoclonus of muscles of arms and of legs appeared; also, neck rigidity and a positive Kernig's with strabismus, unequal pupils and then lethargy. Recovery in one and a half months with a marked psychotic state and precociousness.

Case X.—Female, age 28, five months pregnant. Had a severe headache followed by blurring of vision and diplopia. This persisted for two weeks when she became slightly irrational and lethargic. Mild course with recovery in one month. This pa-

tient went on to term and was delivered of a normal, healthy child.

ANALYSIS OF SYMPTOMS

A. GENERAL TOXIC SYMPTOMS:

Fever was present in some degree and at some time in all cases, although rarely above 100 degrees. Usually the onset was accompanied with a low-grade fever which persisted for several days. In the four fatal cases two had terminal temperatures, practically normal, but very rapid pulses and two had terminal temperatures above 106 degrees.

Chill was quite unusual, being recorded in but two cases, both of which had concurrent throat infections.

Headache was severe in type and quite constant and prolonged. It was present in all but one case. Occasionally it was described as very superficial and over the temporal regions.

Vomiting was never of the projectile type and only present during the first three days except in one case. While not a distressing symptom it was present in all but two cases.

B. NERVOUS SYSTEM SYMPTOMS:

Diplopia was complained of by eight patients. In three it was possible to demonstrate paralysis of ocular muscles. In most cases the diplopia was evanescent. This sign appeared fairly early—by the eighth day in all cases.

Pupils were normal throughout in six cases, unequal in four, and failed to react to light in three.

Ocular fundi were examined in all cases. In none was there found any evidence of choked disc or optic neuritis.

Facial Palsies: Lid-droop present in all but one case. It was often but slight and was not necessarily constant. Corner of mouth droop was evident in four patients.

Strabismus was present in two patients.

Pharyngeal Reflex was absent in one case.

Lower Extremity Reflexes: Patellars, present in all, exaggerated in one, and unequal on the two sides in one. Babinski was negative in all as well as clonus.

Kernig was positive in two cases.

Sphincter Involvement: Both rectal and bladder incontinence in four cases.

Involuntary Movements: a: Myoclonus, irregular arhythmic contractions of muscles were present in six cases. They were irregularly distributed, involving shoulder, arm, face, leg and abdominal muscles.

b: Choreiform jerkings were evident in two.

c: Fibillary twitchings in two.

MENTAL STATES:

A disinterested, unconcerned, apathetic attitude was present at some time in all cases which were conscious during our observation.

Coma was present in four cases, three of whom died. Lethargy in some degree was present in all cases. The mental state or mental condition varied in the same patient, sometimes even in a day. Marked lethargy might be interspersed with restive delirium, emotional delirium or marked wakefulness. In fact Case VII hardly slept any for ten days, yet was drowsy and tired.

Facial Expression: There was something in the facies of these patients which told one at once that a cerebral condition was present. The facial picture was not the same in all, and no one term, such as Parkinsonian mask, poker face, ironed-out face, or such, described it alone.

The listless, vacant look in the eyes must be included in the picture as well as the smoothed-out facial markings. In fact all factors which go to make up what we call "facial expression" must be considered in this word picture which we are unable to paint faithfully in all details.

Spinal Fluid: This varied considerably as to pressure, cell count and globulin. These variations seemed independent of stage or severity of disease. Nineteen spinal fluids were examined and all but six were crystal-clear. These six were from two patients who have previously been reported.*

The pressure was increased in nine and normal in ten punctures.

The cell counts ranged from four to eleven hundred.

The globulin by Nonne test was positive in seven and negative in ten.

Absence of copper reduction was found in six of eleven fluids so examined. All spinal fluids were Wassermann negative.

Blood Findings: Leucocyte counts were made in seven cases and varied from 6,480 to 17,000, the average being 11,300.

DIAGNOSIS

This must be made by a process of exclusion. Given a patient with onset of headache and vomiting, with symptoms of neuritic pains, involuntary muscle movements, cranial nerve palsies or lethargy, cerebral disease is suggested.

The absence of turbidity and polynuclears in the spinal fluid and a negative Wassermann rule out meningitis except that due to tuberculousis.

Negative eye grounds for choked discs and optic neuritis help in the differentiation from brain tumors.

In the absence of any definite sign or test which is diagnostic of this disease, clinical judg-

ment and experience must play an important part in the make-up of a diagnosis.

In some cases an absolute diagnosis cannot be made without autopsy.

TREATMENT

Forced feeding during the lucid periods was insisted upon. Frequent lumbar punctures in those cases in which this procedure was followed seemed to afford relief. Salicylates, phenacitine, etc., did not seem to relieve the headache. It was curious that protection of the head from the air by skull caps relieved the superficial headache.

Absolute rest in bed was insisted upon until all signs of irritation of the nervous system had disappeared. The actual sequelae are yet quite unknown, but from our experience instability of the nervous system is to be expected.

PROGNOSIS

Coma was a distressing sign and was present in three of the fatal cases. We found it impossible to forecast with any degree of certainty the probable course or outcome of any individual case. Case IX, who seemed to be the most hopeless because of the prolonged period of activity and the wide extent of the involvement, lived; while Case III whose course appeared mild, died on the third day.

DISCUSSION

It was our impression, during our early experience with this disease, that it ran rather a definite course, as follows: Onset, irritative lesion signs, then, lethargy. In fact our first few cases reported here and seen in consultation outside of our hospital service seemed to follow the above course pretty closely. But later we observed cases in which lethargy preceded the palsies and vice versa.

The types of "involuntary muscle movements" are spoken of by some as a basis of classifying this disease and are interpreted as corpus striatum lesions. We are not sure that in many cases these are not the results of edema and swelling rather than of direct involvement.

The non-transmission in utero was of note as was also the benign influence on the pregnant state.

This recent pandemic of Encephalitis Lethargica has placed a responsibility upon the profession for its recognition. And this study aims to present the disease as we saw it clinically in a group of cases. We endeavored to study its etiology by the intracerebral injections into rabbits of brain substance from fatal cases and post-nasal washings from living cases. We were unable to demonstrate any causative organisms.

*Journal of Mich. State Medical Soc., Vol. 20, No. 6, p. 41, June 1921.

ENCEPHALITIS LETHARGICA. TABLE No. I										
Case Number	Days of Disease	Fever	Headache	Vomiting	Myoclonus	Cranial Nerve Palsies	Diplopia	Lethargy	Delirium	Coma
I	1-3	+	+	+						+
II	1-3	+	+	+				+	+	+
III	1-3	+	+	+	+	+	+	+	+	
IV	1-3	+	+	+	+	+	+	+	+	
V	1-3	+	+	+			+			
VI	1-3	+								
VII	1-3	+	+	+						
VIII	1-3	+	+	+						
IX	1-3		+	+						
X	1-3	+	+				+			
I	4-7	+	+			+		+	+	
II	4-7	+	death 5th		+	+		+	+	+
III	death 3rd day									
IV	4-7	+	+		+	+	+	+	+	
V	4-7	+			+			+	+	
VI	4-7	+					+	+		
VII	4-7	+		neuritic pains					+	
VIII	4-7	+	+	neuritic pains			+		+	
IX	4-7	+								
X	4-7	+				+	+	+		
I	8-14		+			+		+		
IV	8-14	+	+		+	+		+		
V	8-14	+			+			+		
VI	8-14	+			+	+	+	+		
VII	8-14			neuritic pains				+	+	
VIII	8-14	+	+		+	+	+	+	+	
IX	8-14	+	+	+	+	+	+	+	+	
X	8-14		+			+	+	+	+	
I	15-30		+					+		
IV	15-30	+	death 16th		+	+		+		+
V	15-30	+	death 19th		+	+		+		+
VI	15-30	+			+	+	+	+		
VII	15-30				+		+	+		
VIII	15-30		+					+		
IX	15-30	+	+		+	+	+	+	+	
X	15-30		+			+		+		

*Death third day. ‡Abdomen rigid.

ENCEPHALITIS LETHARGICA. TABLE No. II									
SPINAL FLUID									
Case Number	Day of Disease	Character	Pressure	Cells per C. C. M.	Globulin Nonne	Copper Reduction	Wassermann		
I	3	bloody	+						
	4	sl. bloody	+						
	6	clear yellow	+	250	+	—	—		
	14	" "	+	200	—				
	21	clear	+	250	+				
II	5	"	norm'l	1152	+	+	—		
III	3	"	+	43	+	—	—		
IV	15	"	norm'l	7	—	+	—		
V	16	"	+	9	—				
VI	14	"	norm'l	135	—				
	21	"	+	50	—	+	—		
VII	15	"	norm'l	70	—	—	—		
	6	"	"	10	—	—	—		
VIII	13	"	"	4	+	—	—		
	20	"	"	8	+	—	—		
IX	9	clear yellow	"	250	—		—		
	16	" "	"	80	—	+	—		
X	14	clear	+	94	+				
	21	"	norm'l	7	—	+	—		

BLOOD COUNTS			
	White	Polys.	Mono.
I.	9,200	67	43
II.	10,600	85	15
V.	17,000	90	10
VI.	15,480	81	19
VIII.	10,400	80	19
IX.	10,120	82	18
X.	6,480	78	22

SEASON

January 1920 to April 1920, 1 case.
May 1920 to October 1920, 3 cases.
November 1920 to April 1921, 1 case.
May 1921 to October 1921, none.
November 1921 to April 1922, 5 cases.
Winters of 1920 and 1921, 7 cases.
Summers of 1920 and 1921, 3 cases.

PRESIDENT'S ANNUAL ADDRESS
(1921-22) TO THE WAYNE
COUNTY MEDICAL
ASSOCIATION

SUBJECT: "THE ADVANCEMENT OF
MEDICINE IN DETROIT"

JAMES E. DAVIS, A. M., M. D.

To have served as the President of Wayne County Medical Society for the year 1921-22 is an honor and privilege which I have very highly prized. The extension of my opportunity to serve you for the longer period of five years as your trustee is appreciated very fully as an obligation and trust at a crucial time in the history of medicine in Detroit.

The opportunities of the past year have been very completely taken and intensively utilized in constructive work for permanent benefits to the society. My associated officers have given a year of splendid co-operation and enthusiastic

service to which the members in general have returned sympathetic response.

This address is given late enough in the 1922-23 year to afford an opportunity for prophesy regarding our new officers. The assurance of the best year in our history is now felt by all who are closely familiar with the affairs of the society and I am certain that whatever features of last year's work possess merit will be continued in this year's program.

The subject, "Advancement of Medicine in Detroit," should appeal to all members of the profession who are in the active medical life of the city. There are many reasons for this appeal and some of these worth mentioning are the following: Detroit is said to be the only city in the world having over 500,000 in population that is without a completed university. Detroit has perhaps more diversified medical units than any other city in the United States or Europe. A partial list of these units are as follows: Board of Education Medical School, School of Pharmacy, Junior College,

(giving pre-medical school work). The Welfare Commission, with a Receiving Hospital, County Hospital, etc.; the Board of Health, with the Herman Kiefer Hospital, a Tuberculosis Sanitarium, Clinics and School Inspection Departments; the County Physicians; the City Physicians; the Coroners; the Y. M. C. A. School of Pharmacy; the eleven or more medical scientific societies, etc.

Detroit has been designated a city from which an unusually small amount of research work is reported and current medical literature receives but little aid from Detroit contributors because the devotion of our profession to the daily program of medical business is in undue proportion to that spent upon pure science.

In Detroit the percentage of autopsies performed and the number witnessed by the profession is unduly small. In 1921 there were 10,382 deaths in the city, including all cases from the three months' intrauterine period forward, and from this number only 841 autopsies are recorded. Of this number but 363 were done at all the hospitals and by all the physicians of Detroit. The remaining 478 were Coroner's cases. It is fair to assume that the percentage would reach almost the vanishing point if only the complete autopsies were counted. Our percentage as given yields a rating of only 8.1%, including Coroner's cases or 3% without them. In signed reports from the following cities the percentage are as follows: The Montreal General Hospital, Montreal, 88.54%; the Mayo Clinic, 84%; the Royal Victoria Hospital, Montreal, 70.4%; the University of Michigan Hospital, 53%; the University of Minnesota, 50%; the Lakeside Hospital, Cleveland, Ohio, 48.4%; the Massachusetts General Hospital, Boston, 38%; the Cook County Hospital, Chicago, 30%; (Coroners' cases are not included in either of the two latter hospitals). In Edinburgh University Hospital there were 367 autopsies last year. The population of this city is according to Putnam's 1921 Atlas, 320,315, while the population given by the same authority for Detroit is 993,678. In Glasgow University Hospital approximately 460 autopsies were obtained last year, for undergraduate and post-graduate teaching. In Vienna, Austria, three teaching hospitals had last year 4,800 autopsies. Putnam's estimate of the population in this city is 2,031,498.

In Detroit medical teaching is not very popular. We have no established post-graduate teaching. There is but one lecture foundation and this is only a year old. There are no teaching fellowships to encourage sustained research endeavor.

Without further consideration of our de-

ficits an examination of available assets will suggest much to encourage real vision and stimulate true progress. Detroit is a dynamic city of 1,000,000 population, with an assessed valuation of \$1,853,196,420.00, or \$1,850.00 per person, yielding a tax income of \$51,235,633.50. It is the fourth city in size and riches in the United States and the thirteenth or fourteenth world city in population, but undoubtedly the tenth in wealth.

The state of Michigan has a population of 3,668,412 and has had an increase of 30.5% in ten years; a growth exceeded only by Arizona, Montana, Wyoming, Idaho, District of Columbia and California. We have but two universities in the entire state. One of these is greatly over-crowded. In Detroit we have a Junior College, which is greatly crowded. This institution is giving the first two and three years of university literary and pre-medical work. The student population in this institution is 2,000. Of this number 285 are pre-medical students. The Cass Technical School has 10,207 students, making a total population in the two schools of 12,207.

The object of the above quotation is to set forth the extent of interest in education where special courses are provided advancing to professional education.

In Switzerland where the population is about the same as Michigan, there are seven full universities, the largest attendance in any one of these is 1626 matriculated students. The total attendance in all their universities number 6,444. The Swiss University standards are high, for Great Britain and Switzerland met in conference this summer for the purpose of arranging an exchange of professors and students.

In Scotland with a population of less than 5,000,000 there are four full universities and six medical schools. In New York, Chicago and Philadelphia, each city has four class "A" medical schools. In Detroit we have one medical school, without endowments and without adequate buildings. This fall 285 students sought admission to the freshman class. Fifty-five were registered and this number exceeds the capacity of the school equipment. At the present time the students who complete seven years of college and medical work in Detroit receive but one degree. This is unfair and unjust and our medical society should be interested in securing for her young medical men rights which are commonly accorded elsewhere.

The present divisions of medical work in Detroit are in part very satisfactory and also in part unsatisfactory. There are two considerations, one of these in its ultimate analysis includes both. The first concerns the result at-

tained in services to the public in general and the second is of necessity concerned with the equipment of those who give the service and the facilities afforded for doing this work.

A few specific conditions will be mentioned for serious consideration. The first is concerning the facilities afforded all physicians and all medical students in Detroit to witness or have done autopsy work. If last year's record is taken there would be one autopsy for each student and physician every two years. To visualize terminal pathology in the six great systems—gastrointestinal, respiratory, cardiovascular, cerebro-spinal, osseous and genito-urinary, allowing one case for each system, twelve years would be required before the exhibit could be completed. This makes the vividness and reality of structural changes resulting from disease processes become only a memory and a record some one has written in a book. During the past summer it was my privilege to witness and take appropriate notes upon more than 350 autopsies, in Vienna, during a period of 2½ months. It is quite impossible to compete in knowledge and keep pace in progress with men who continually have this kind of opportunity for reading structural changes as written in the freely exposed body tissues, when we content ourselves by reading *their* observations written in a foreign literature. The opportunities for pathology are in part limited in general practice by that great uneducated public to whom the very word "post-mortem" is suggestive either of morbid curiosity or diagnostic failure. Nothing is more discouraging to accurate diagnosis, to careful clinical study, than the certainty that one's results can neither be confirmed nor refuted. We learn from our failures, our mistakes and uncertainties, but only insofar as we can eventually confirm them. *The mysteries that remain forever unsolved leave us only annoyed and with less clinical enthusiasm for similar cases in the future.* Our knowledge of morbid anatomy atrophies from disuse and pathology ceases to affect the practitioner as soon, and as completely, as the practitioner ceases to affect pathology.

The Coroner's autopsy service last year recorded 478 cases and this year 575 in approximately nine months. There is but little scientific use made of all of this material and there is no good reason why one or more of these cases could not be exhibited daily at a convenient hour for the general advancement of pathological knowledge in Detroit. The Wayne County Medical Society is the proper channel for an enabling movement to be organized that will make possible and practical this opportunity.

During the past year a step was taken toward the correlation of Detroit's clinics. A listing of the several units was carried in our Bulletin. This work should be further organized and Detroit should be in competition with St. Louis, Chicago, New York and Philadelphia in the Medical Clinics of North America. The reader is asked to scan page three. Advertising Department of the A. M. A. Journal, of October 14, 1922, and observe the enterprise of St. Louis, a city with perhaps 250,000 smaller population than Detroit.

Almost every large city in the United States but Detroit, is carrying on organized and consecutive post-graduate medical work. In the September 30th Journal of the A. M. A., Chicago has ten different advertisements offering this kind of work; New Orleans has two; Harvard Medical School has one; New York has one and Washington University at St. Louis has one. The demand for this instruction is active and evident in Detroit. Last year a teacher from another city gave a short post-graduate course to specialists and two courses were carried through at the Woman's Hospital. This year already 16 or more men have organized courses desired for their specialties and are now at work.

The activities of two of Detroit's medical units can be specifically commended for both progressiveness and aggressiveness. Both have met some opposition and criticism. During last year our County Society, through its public health committee offered its services as a clearing house for some misunderstandings which had arisen in the ranks of the profession concerning certain Board of Health clinical work. The outcome has been apparently quite satisfactory to the society and to the department of health. The latter recognized the suggestions of the profession and in turn a new feeling and a better understanding prevails towards this department, which is without doubt one of the most efficient and aggressive public health services in the country. The extent of the activities of this department is much greater than most of us appreciate. The willingness of the leaders of the Board Health work to affiliate with and co-operate in the work of the County Society is appreciated. It is believed that the full resources of this department are available for aiding any forward endeavor of the society.

The Welfare Commission has the second activity of a very great importance in the medical life of the city. It was just a few days before his death that our esteemed member, Dr. Wadsworth Warren, discussed favorably some plans of advantage to medical education in Detroit. The close affiliation of the work of this

commission with its Receiving Hospital, Eloise Hospital and Home, with that of the Medical Department of the Board of Education is not only important but imperative. It is a credit to the Dean of the Medical School and the Superintendent of the Receiving Hospital that much has already been accomplished in permanent arrangements for the union of activities for both institutions. The great need of both institutions is greater appropriations. The influence of this large society should be used to urge this need.

The magnificent gifts by the city's former chief executive, Hon. James Couzens of approximately \$8,000,000 to our Medical institutions is true leadership of the highest type which should stimulate both our lay and Medical citizens in further attention to the appealing opportunity of Detroit as a great Medical center.

The increasing number of medical society units in the city cannot be of service in advancing medicine unless a close affiliation is maintained with the County Society, for there are only seven days in any week and the danger is imminent of utilizing all available time for meetings which must of necessity overlap in many ways. Last year one of these societies held its meetings on Monday evening at the same time as our County Society meetings. It is suggested that a council be formed consisting of one member from each of the eleven or more associations for the purpose of unifying all possible common endeavors.

Our property interests have fortunately advanced in value beyond our expectations. We have outgrown our quarters. A membership of over 1,350 is significant and it is confidently hoped that we may in the near future have a medical home of commanding appearance and importance.

The library is an asset of very great significance and it must keep pace with all progress we shall make. It is time a library of Science for Detroit should be earnestly considered, which would house the literature of the Medical, Dental, Pharmaceutical, Chemical, Bacteriological, Engineering and other scientific societies. This should be a branch of the City library, with an appropriate building and maintenance by the city. This endeavor should be made at once in order to simplify the future building plans of the Society.

The subject of this paper is incompletely discussed without a consideration of what militarists would call the "man power" and its enlistment possibilities. It has been truly said that no city in America has a more harmonious profession than that of Detroit. This condition is a valuable asset, but it is not enough. The

strenuous life of active progress calls for more sacrifices than are at present being made. *If a few men with financial ability and scientific scholarship would give up a part or all of their daily routine practice and devote themselves to the sole cause of medical advancement, Detroit would quickly move towards leadership in American medicine.*

The history of medicine in Europe and in America has had periods of marked advancement which are characterized by the outstanding influence of a relatively small number of men who have cared more about teaching medicine than earning money from it.

In the early part of the nineteenth century, London surgery was of outstanding prominence and this was largely due to two men, Sir Astley Cooper and John Abernethy. At the early age of twenty-five, Cooper was professor of anatomy in Surgeon's Hall. His fame is due very largely to his great ability as a teacher and writer. He ligated the abdominal aorta about the year 1815 under pre-anesthetic and pre-antiseptic conditions. He had in his house probably the largest and most valuable private collection of pathological specimens in the world.

Abernethy was distinctly an investigator. Though a surgeon he worked constantly upon chemical and physiological experiments. Comparative anatomy was his favorite pastime. He was kept in the position of Assistant Surgeon at St. Bartholomews for twenty-eight years before being made surgeon at the age of 51.

The outstanding influence upon all at this period was the foregoing work of John and William Hunter, both of whom were teachers, anatomists and pathologists of outstanding merit. The marvelous dissections and collections of these two men are now in the museum of the Royal College of Surgeons at London, and the Hunterian Museum at Glasgow. It was my privilege to examine both of these remarkable collections about two months ago. It has been said that neither of the Hunters were satisfied with success in practice and nothing else. The investigations carried on by William Hunter, relating to the lymphatics, embryology, structure of the gravid uterus, malformations and the cellular membrane, are very unusual. It is said of him, "he brought great men into the intellectual world of medicine."

John Hunter lacked sadly in his early education for he neglected school and hated book learning, but he was an investigator, a collector of anatomical and natural history specimens. His interest in physiology and comparative anatomy was most unusual. Notwithstanding the oft quoted saying, "I must go and earn the

damm'd guinea." He must have earned enough guineas to pay for his "laboratory" outside of London, which really consisted of "a farm, a menagerie, an institute of anatomy and physiology." He had original records of the dissection of 315 different species of animals. It is noteworthy that Edward Jenner was one of his house pupils. John Hunter's museum contains 13,000 specimens. He was a great investigator, an accomplished naturalist, a skillful anatomist, a physiologist, an experimental pathologist and the founder of scientific surgery.

From the foregoing periods it is interesting to pass to the era of antiseptic surgery, and consider for a few moments its hero, Lister, who prepared himself for his epoch making work by long continued painstaking pathological research. The pyemias and inflammations were very intensively studied with the microscope and very numerous camera lucida drawings were made by him in his study. It is certain that aside from his fame in surgery Lister had a foremost place in pathology. He only remained in practice twenty-seven years from the year of his appointment to the chair of clinical surgery at Edinburgh. *He retired in order to have more time for scientific study.*

Dr Costa has written that "never in the records of medical history have so many surgeons gathered together in one city at one time as constituted the teaching force of Paris in the reign of Louis Philippe, 1815-1850." The city then contained the very best organized hospitals in the world. The 20,000 hospital patients were used for instruction of students. Subjects for dissection were plentiful. This was a time when dissection was viewed with horror in England. The interne was still a student of medicine, *he remained in the hospital for four years* and received a salary of 400 francs a year with board and lodging. He was allowed to take private classes and quiz students. There were over 30 hospitals and about 5,000 students of medicine in Paris at this time. France was then the laboratory of the world.

The rise of the French school marked the decline of the Edinburgh school and the rise of the Dublin school. Both were prominent because of a few devoted, talented and self-sacrificing teachers of medicine. From the Edinburgh influence, came the University of Pennsylvania, the oldest medical school in the United States. Two men, Graves and Stokes, master and pupil in Ireland, at this period founded the type of clinical teaching prevalent in America today. They taught medicine at the bedside. Stokes published the first work in the English language on the use of the stetho-

scope. He is ranked the second greatest cardiologist in the history of medicine.

Just a little later the first pathological society in the English speaking world was established at Dublin in 1838. Here Osler's "Alabama Student," John Y. Bassett, must have studied for his "credo" is an inspiration from pathology and his words, "The world is *too much with us*," is doubtless a reflection upon the routine practice of medicine.

A more recent great influence upon world medicine has come from the Viennese and German schools. Among the first great personal influences were Skoda and Rokitansky of Vienna, who definitely established clinical pathology. Physics and structural pathology were studied by unique methods. First, the teachers gave themselves, second the patient and finally the autopsy all for the science of disease and its study by those who came to learn. This type of instruction involves remuneration by salary and from fees paid directly by those instructed. Post-graduate and to a very considerable extent, under-graduate instruction has been to quite an extent standardized throughout the world after the Viennese plan, which has now been used for 80 years. The fertility of this plan can be judged by the yield in literature. The College of Physicians, Philadelphia, received in 1920 from all languages 940 books and of this number 330, or 35% were in German. In 1921 there were 1,029 books received. Of these 302, or 29.3% were German. Bibliographical references in modern anatomy are predominantly German and this is not strange when one considers the statement made to me by Prof. Oskar Stoerk of Vienna that since his service in pathology began they have had over 100,000 autopsies. In the museum of pathology at the Allgemeines Krankenhaus, Vienna, there are 65,000 catalogued specimens.

The emphatic influence of the Viennese and German schools is sure to continue so long as their teachers, clinicians and research workers have the freedom now possible from the daily exactions of the commercial side of practice, and so long as favorable public sentiment and material for work continue as at present.

The newest school of medicine is the American. The two commanding influences which are most discussed in Europe are the Rockefeller and the Mayo Foundations. Singularly the College of Surgeons, the College of Physicians, the American Medical Association and our Universities are not regarded as factors which are disturbing rivals for the ultimate prestige of scientific medicine. Two questions are invariably asked concerning American medicine. The first concerns the *exclusive devotion of the unit power, (the life of the*

worker), whether single or composite to the cause of science, and the second involves material resources of money and availability of clinical and anatomical materials. It is everywhere conceded that we have the money but otherwise we are unproven.

CONCLUSIONS

The advancement of medicine in Detroit depends upon our recognition of the historic fundamentals which have governed medicine in the past three centuries. The need is for a group of men who will either give freely of their means to support others or forego the shekels of practice and give themselves freely to investigation and teaching. Correlation of effort and assembling of materials, such as library equipment, teaching facilities and autopsy service so as to have the benefits therefrom extended to the entire profession is imperative. Detroit should have a large and effective Municipal University which would be in keeping with her dignity, wealth and cultural needs. A new and imposing Medical College building should be immediately provided and this should be one unit of a group of Municipal University buildings. A Science Library building is a third necessity for the advancement of all the sciences in Detroit. All of these requirements should be impressed upon the community. The best system of education is that which draws its chief support from the voluntary effort of the community, from the individual efforts of citizens and from those burdens of taxation which they voluntarily impose upon themselves. The best that we can do for one another is to exchange our thoughts freely and that after all is about all.

OUR OPPORTUNITY IS OUR PROBLEM

The Wayne County Medical Society should always exercise a centralizing influence. It should be a forum for thought and speech. It should be the paramount medium of influence to the public and for the profession in Detroit.

N. B. It is gratifying to report that since the above paper was read, Dr. William E. Blodgett has given \$5,000 for an Annual Lecture Foundation in Orthopedics and the City Public Library Commission has voted to take over the management of the Wayne County Medical Society Library and allow a most liberal appropriation annually for the purchase of new books.

NON-TUBERCULOUS INFECTIONS OF THE KIDNEY

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For many years text books have taught that pyelonephritis, pyelitis, and pyonephrosis

are distinct disease entities. However, it has been fairly well established that they are different stages of one and the same pathological condition.

Bacterial invasion of the kidney is, of course the fundamental process and in its development distant foci of infection and urinary stasis play an exceedingly important part.

In recognizing the facts that large numbers of living bacteria normally pass through the kidney and are excreted, (the majority fortunately doing no damage) and that once destroyed kidney tissue is forever lost to the organism, we must realize the vital importance of early recognition of kidney infection. Through the advent of the cystoscope, the X-ray and more recently functional tests, both excretory and retentive, the diagnosis of surgical kidney can be made much more accurately and much earlier than it could only a very few years ago.

Let us now consider the paths of bacterial invasion of the kidney. There are three possible ways by which bacteria may reach the kidney, by direct invasion up the ureter, through the lymph, and through the blood stream. For many years all kidney infections were held to be ascending ones. This view undoubtedly arose from the fact that early symptoms for the most part are referable to the bladder. The relative frequency of pyelitis in the female child, the shortness of the female urethra, the unguarded bladder and the ease with which the colon bacillus may enter the urethra are still held by some authorities as an argument for ascending infection.

In 1919, Buerger arrived at the conclusion that in a very limited number of cases ascending infection did take place, ascending at least in the sense that the bladder was the primary focus of infection. Whether this ascending infection took place by direct extension or late embolic invasion he was not able to say. He does not believe, however, in ascending lymphatic infection of the wall of the ureter. Thus quoting Halle and Motz he says: "We have yet to find profound ureteral ostial lesions at the bladder with complete integrity of the corresponding kidney." The fact that the bladder heals after nephrectomy seems to me to speak strongly against this organ being the primary focus in its relation to the kidney infection. It would seem that ascending ureteral infection rarely occurs and then only in the presence of an abnormal ureteral sphincter.

The theory of bacterial lymphatic invasion directly from the intestinal tract to the kidney is still held by many authorities to be possible.

Eisendrath showed in experimental work done upon dogs the possibility of ascending lymphatic invasion along the course of the ureteral lymphatics. He did not take into account apparently that the lower third of the ureter drains into the pelvis and that there is no lymphatic stream which proceeds up the ureter, the lymphatic supply of the ureter being segmental in character.

In 1911, Brewer called attention to the fact that hematogenous infection was responsible for the greater number of cases of renal sepsis. Up to this time and for some years afterwards the theory of ascending ureteral infection held full sway. It was largely through the efforts of Cabot and Crabtree in emphasizing the predominance of hematogenous infection that the prevalent idea of the frequency of the ascending route was changed. Cabot noted the fact that while it was generally recognized that cocci reached the kidney through the blood stream, it was still considered that colon bacilli reached the kidney by the ascending route, because of the fact that the most important lesion is in the kidney pelvis.

Suffice it to say then, that of the three modes of invasion, the present consensus of opinion seems to favor the hematogenous route.

We will now consider in some detail, the anatomy of the kidney in order that we may understand more accurately the mechanism of bacterial invasion. When we consider the

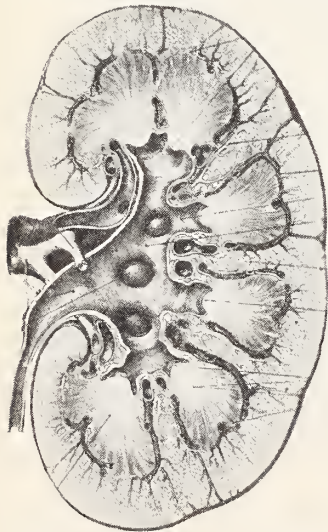


Plate 1. Schematic Longitudinal Gross Section of Kidney showing the relations of the Blood Vessels to the Cortex and Medulla. (Kelly-Burnham).

anatomy of the kidney we should have in mind that the unit of kidney structure is the glomerulus with its afferent and efferent vessels and the attending system of tubules. The gross kidney as we know it is simply an aggregate of many thousands of these units contained in the kidney capsule. The glomerulus and convoluted portion of the tubules are cortical in position, the Henle loops and collecting tubules dipping down into the medullary portion. From a surgical point of view, the important anatomical point to be considered is the blood vessel arrangement in the



Plate 2. Schematic Microscopical Section of a few units of kidney showing that the main blood supply is distributed to the cortex while the vessels to the medulla are minute and few in comparison. (Kelly-Burnham).

kidney. It will be remembered that the vessels break up to form a series of arches which lie between the cortex and medulla, the so-called arcuate arteries. From these quite large vessels, the so-called interlobular arteries are given off which lead outward into the cortical portion, and much smaller vessels, the arteriae rectae verae, turning backward supply the medulla. It will be especially noted (as shown in Plate I and II) how much richer the blood supply of the cortex is than that of the medulla and how much larger and easier of access to foreign bodies the interlobular arteries are than the arteriae rectae verae. The cortical substance is the arterial side of the kidney, the blood coming to this portion for purification.

The blood channels of the medullary portion are chiefly venous carrying the purified blood back to the general circulation.

For convenience, kidney infections may be divided into three groups; (A) Colon infections, which show a predilection for the medullary collecting portion of the kidney, the straight collecting tubules, the pelvis and ureter. (B) Infections caused by cocci, which attack

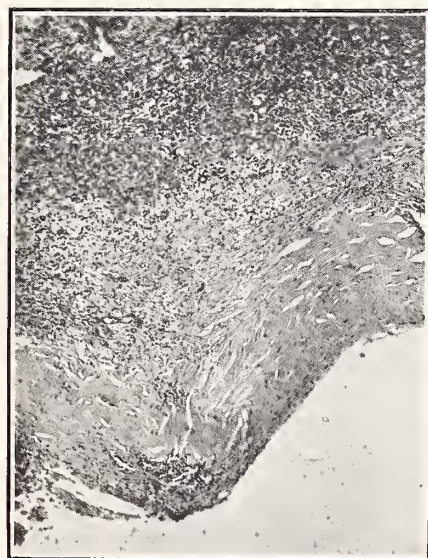


Plate 3. Old pyelitis with epithelium replaced with hyaline connective tissue.

the filtering portion, the cortex. (C) Mixed infections—where both medullary and cortical structures are involved.

Group A—Colon infections. Approximately 80 per cent of all kidney infections are the so-called pyelitis cases and come under this group. The colon bacillus instead of lodging in the glomerulus passes through it and finds lodgment in the tubule. During the acute stage, the infection is limited to the tubule. At this stage there is really a true nephritis. When the invading micro-organisms reach the pelvis proper, the latter also becomes infected thus producing a pyelonephritis which we more commonly call a pyelitis.

There are certain cases of pyelitis where a carefully noted history gives no ascertainable clue as to the cause of the infection. There can be no doubt that there is some cause which precipitates the attacks, whether it is a lowered resistance to the invading organisms, trauma or circulatory disturbance. Many of the infections have undoubtedly existed intermittently since childhood; that is, intermittently as far as gross pus is concerned, but, we must remember that these urines are probably never bacteria free.

There are other cases when mechanical obstruction is a causative factor. The obstruction may be located anywhere below the kidney, in the urethra, at the vesical neck, or in the ureter.

Some cases form a vicious circle, the bacteria in the bladder, prostate and vesicles are carried by the blood stream from there to the already damaged kidney, only to be excreted again.

Colon infections may also result from circulatory changes, from exposure, or from trauma. Under this heading is included the movable kidney with a temporary circulatory disturbance or obstruction of the ureter. However, my observation leads me to believe that the percentage from this cause is small. The pressure of the gravid uterus plus the functional disturbance of an over-worked kidney leaves a fertile soil for the colon bacillus.

Without a mechanical or circulatory disturbance and no serious constitutional disease present, most pyelitis cases are of short duration. In fact, I think many of us harbor a mild pyelitis at times without being cognizant of the fact.

When a pyelitis persists, however, the kidney pelvis loses its elasticity and with this decrease of contractile power, becomes lax, the walls thicken and there is a tendency to sag. While this is taking place, bacteria enter the kidney proper from the infected pelvis (by way of the lymphatics) with a corresponding de-

crease of kidney function as the invasion progresses.

Having dealt with our first group which attack the collecting portion of the kidney, let us turn now to the second, the coccus group which attack the filtering portion of the kidney.

The most common organisms of this group are the staphylococcus and streptococcus pyogenes. Reaching the kidney by the blood stream, they act here as in any other organ by forming small circumscribed abscesses. These

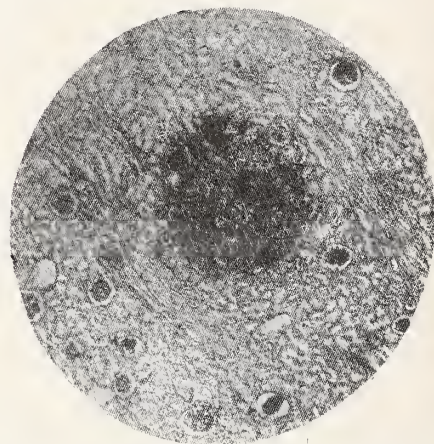


Plate 4. Miliary abscess around glomerulus in early cortical infection.

abscesses are usually a glomerular lesion, a rapid thrombosis occurring, although at times when the clumps of bacteria are large enough

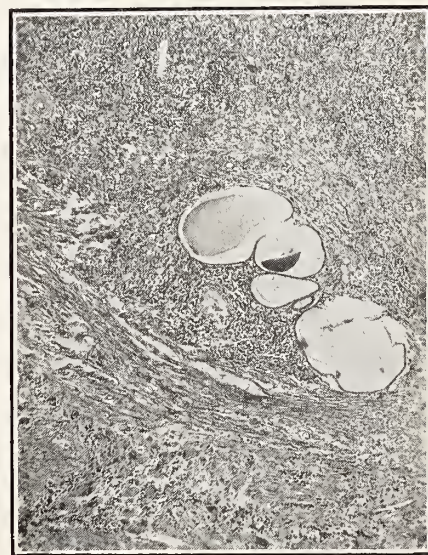


Plate 5. Late cortical infection; dilated tubular and round cell infiltration.

the smaller vessels are plugged. As a rule a lesion pyramidal in shape, resembling an infarct is found. The anatomical arrangement of the kidney does not allow the infection to spread laterally from the renculus, and thereby the bacterial invasion is limited. It is possible,

however, as mentioned above to have an embolic plugging of the vessels at the base of the pyramid producing an infarct. After the for-



Plate 6. Cross infarct accompanying endocarditis.

mation of these minute abscesses in the kidney cortex, their drainage is principally toward the periphery, and very often a perinephritis results. If free pus is formed there is a perinephritic abscess. If there is no free pus, these cases go on to recovery with the inflammation limited to the cortical substance and fatty cap-

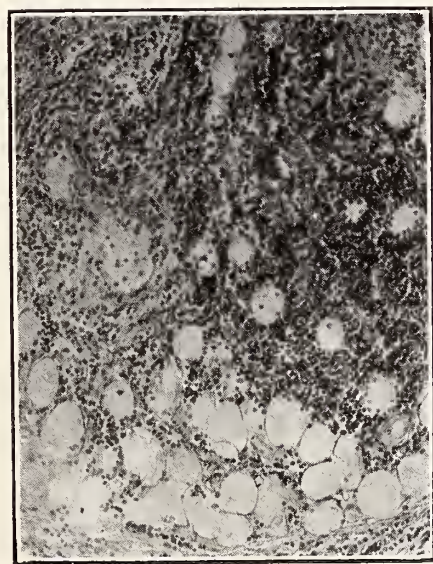


Plate 7. Perinephritis—The infection originated in the cortex and travelled towards the periphery involving the capsule and surrounding tissues.

sule. It might be well, at this point to make the distinction between peri and paranephritic abscesses. In perinephritic abscesses the infecting agent comes from the kidney itself, while in paranephritic abscesses, the bacteria comes from some other neighboring source by extension or gravitation (for instance a necrotic vertebra) and the pus is only in the vicinity of the kidney which is itself free from infection.

Brewer has emphasized the severe streptococcus and staphylococcus infection which are

often mistaken for acute intra-abdominal conditions. In this type there is an acute focal necrosis, the lesion being pyramidal in shape and in the form of an infarct. These cases of overwhelming virulent invasion cause a very rapid destruction of the kidney tissue before the perinephritic formation of free pus can take place. Frequently operative exposure within 48 hours after onset of symptoms shows a pulpy mass with the kidney tissue nearly destroyed.

In contra-distinction to the pus laden urine of the colon group, we have in the cortical infections, a macroscopically clear urine, the drainage being towards the periphery and away from the collecting portion of the kidney. Culture of the urine, however, as a rule shows the presence of the invading micro-organisms. As the lesion progresses and abscess formation takes place, rupture into the tubules may occur with consequent gross pus in the urine.

In the third group, the mixed infections, both the cortical and medullary structures are involved. Here we believe that the coccus is the primary invading organism and this is followed by the colon bacillus. In defining this third group we are moved by the fact that these patients show symptoms of a coccus infection while the urinary and culture findings are those of a colon invasion.

Bumpus and Meisser of the Mayo Clinic have recently drawn the conclusion that pyelonephritis may often be due to focal infection harboring a selective affinity for the urinary tract and that the colon bacillus which is commonly found and generally believed to be the cause is of secondary importance.

They cite LeFur who showed that when the colon bacillus was injected in the prevesical space in animals it was recovered in pure culture from the bladder while if other organisms were injected the colon bacillus was frequently recovered with the injected organism. They also cite the work of Forssner, who produced an artificial selective action of bacteria by growing them upon the kidney and kidney extracts injecting them into animals and finding that they had a tendency to localize in kidney tissue.

Building upon the truth of Rosenow's theory of focal infection and elective localization, they obtained green-producing streptococci from the devitalized teeth of patients with urinary lesions, cultured them, and injected these cultures intravenously into rabbits, 89 percent of the animals injected developed lesions in the kidney. Later 208 animals were injected under the same conditions with streptococci taken from patients having diseases other than urinary infection and only seven developed lesions in the urinary tract. In another study 26 rab-

bits were injected with bacteria taken from the teeth and tonsils of patients suffering from pyelonephritis; 21 of these animals showed lesions in the kidney.

While the work of Bumpus and Meisser is too recent to have received confirmation, it seems to us that it can explain a certain number of our so-called idiopathic colon pyelonephritis cases taking into account the tendency of the colon bacillus to outgrow and usurp the whole field.

This explains to our mind the third group of infections where the urinary findings are indicative of colon infection and clinical findings at first of cortical.

We will now consider the effect of back pressure on the pathogenesis of kidney lesions in general. In 1896 Tammann pointed out the fact that if the arterial pressure exceeds osmotic pressure of the blood colloids, a solution will be filtered through the glomeruli, containing all blood elements except colloids, since the glomerular membrane is impermeable to colloids.

Starling some few years later found the osmotic pressure of the blood colloids to be 30 to 40 mm of mercury and while it had long been known that the secretion of urine stopped when the arterial pressure fell below 30 to 40 mm. of mercury, he was the first one to bring these two facts into relationship.

Starling also measured the urine (ureter) pressure when it was gradually raised until the secretion of urine stopped and found it to be 92 mm. of mercury. The difference then between the arterial pressure and the urine pressure leaves a normal osmotic pressure of the blood colloids.

With this fact in mind we can see that obstruction in the lower urinary tract or ureter will cause a urinary stasis and back pressure in the tubules interfering with kidney function, lowering kidney resistance, favoring the spread of infection and allowing bacteria to multiply in the stagnant urine.

According to Satani and others the renal pelvis and ureter possess an intrinsic power of peristaltic contraction, swollen mucosa, a ureteral kink or the products of an inflammatory process may bring about a motor insufficiency. The question of a motor insufficiency from a neurological standpoint is not as yet clear and will require more detailed study of the nervous control of the ureter before it can be answered. Apparently dilatation of the pelvis tends to conserve renal tissue by lessening back pressure.

With the slowing up of the urinary stream and consequent change in circulation of the walls of the pelvis and tubules, the bacteria

have a chance to multiply and invade the epithelial lining of these parts. When obstruction becomes so great that the urinary stream hardly moves at all, the inflammation through lack of drainage, extends into the kid-



Plate 8. Pyonephrosis—In this the Cortex and Medulla are destroyed and there only remains a cavity filled with pus.

ney tissue proper and produces what we commonly call a pyonephrosis or pus kidney. It is our belief that this condition rarely occurs except in the presence of obstruction.

Hunner believes that we can have ureteral stricture without previous kidney infection. He believes that bacteria may be carried directly to the ureteral wall by the blood stream. Inflammatory reaction and scar tissue following, obstruct the lumen of the ureter. If this is so, obstruction may antecede the kidney infection and play a double role in lowering the resistance by back pressure before infection and decreasing the chances of a spontaneous cure after infection.

The role of focal infection in disease is now so well established that attention need not be drawn to it. That focal infection plays an important part in kidney sepsis is not however so generally understood. Due to the fact that the colon bacillus is such a frequent invader it has been taken for granted that the focus in these patients is usually in the intestinal tract. The work of Bumpus and Meisser showing the possibility of oral sepsis as the fore-runner of colon infection is of general interest and well worth our consideration.

So long as the focus exists, be it in the intestinal tract, oral cavity or lower urinary tract we may expect absorption into the blood stream and reinfection of the kidney. So long as mechanical obstruction exists even when all

foci have been removed, will we have a persistence of the infection. The interrelation of obstructive lesion and focus must be appreciated.

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MENTAL AND BEHAVIOR CHANGES IN CHILDREN FOLLOWING ENCEPHALITIS*

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During my membership on the staff of the Institute for Juvenile Research of the Department of Public Welfare of the State of Illinois, Chicago, there was brought to the attention of the Institute, during the course of the daily clinic, a number of cases of mental and behavior changes following encephalitis. These children were brought to the Juvenile Institute by various charitable and social organizations because they had become serious behavior problems. Some had been expelled from the schools of Chicago because of behavior difficulties. Others had been brought to the attention of the Chicago Juvenile Court because of some delinquency or had come to the knowledge of some member of the social service staff of the Juvenile Institute.

All these children had shown so many bizarre and strange changes in both their personality and behavior that they had become problems in their home and school environment and had been brought to the Juvenile Institute for aid in diagnosis and disposition of the case.

The literature contains few references to mental changes in children following encephalitis and because of this rarity it is believed a report of these cases will be of interest.

The striking observation about these children is that previous to their illness they were, as near as is ascertainable, normal children, were progressing satisfactorily in their school work and were getting along well at home and with their playmates. Following their illness they showed changes in their personality, varying from insanity to incorrigibility. Some who never stole became inveterate thieves; some who never lied, became confirmed liars. They showed such changes in their personality as incorrigibility, marked emotional changes, sexual delinquency and destructiveness. They were cruel to animals, quarrelsome, and even attacked smaller children. One child attacked a neighbor child with a butcher knife. Several have, what they themselves, call "panting spells," which were attacks of rapid breathing that appeared when they were not permitted to do as they pleased or under such slight mental effort as writing numbers on a piece of paper. These attacks were quite involuntary, occurring at times when the child did not know it was being watched and evidently cannot be inhibited at will.

Emotionally they were very unstable. Persuasion had no effect upon them. They cried uncontrollably and they were equally liable to laugh uncontrollably the next moment.

The changes which occurred in the behavior and personality of these children were so many and varied that a recital of those observed in each case will better convey some of the sequelae of encephalitis in children.

REPORT OF CASES

CASE 1

Margaret M. was thirteen years old and had an attack of lethargic encephalitis in November 1920, having been treated at Wesley Hospital. Previous to this illness she had been well behaved and had reached the fifth grade in school at eleven years. Following it she was unable to continue in school and it was found necessary to place the girl in a number of institutions in none of which did she remain for any great length of time. She was detained in the Chicago Juvenile Detention Home for varying lengths of time on five different occasions. She was so anti-social that it was not possible to keep her in any boarding home. She was very quarrelsome, stuck pins in the other children, swore, knocked other children down, made extravagant statements, mostly untrue, thought people were "picking" on her and was generally incorrigible.

*From observations made at the Institute for Juvenile Research, 721 S. Wood St., Chicago, Ill.

She was, however, quiet when questioned, and answered promptly. Her facial expression was dull, masque-like and showed no emotional display. She slept very poorly at night.

Physically she had an absent right knee jerk, an inactive reflex right triceps, a coarse tremor of the head and a stuttering speech.

Binet-Stanford mental tests gave her a mental age of ten years and two months with an intelligence quotation of 78.2% when her chronological age was thirteen years. This classified her as a moron.

Following several examinations she was finally sent to the Psychopathic Hospital where a schizophrenic reaction was found, she was adjudged insane and sent to the Kankakee State Hospital.

CASE 2

Ethel S. was thirteen years old and had been well until November 1919, at which time she had the "flu" with an accompanying encephalitis. She was ill three weeks. Previously she had done excellent work in school, had won honors, was obedient and well mannered, but following this illness she underwent a complete change in her personality. Her scholastic work became so poor and her deportment so bad that she was dismissed from school. She began to have what she, herself, called "panting spells." When under any strain, excitement, or even when she became interested in some sort of work, she would breathe as rapidly as if she had been running and would continue to do so for ten to twenty minutes. Sometimes these attacks could be averted by scolding or diverting her attention, but she was also known to have had these attacks at night. Sometimes she would blow on her fingers throughout the length of the attack. Frequently she would cry, moan, or tremble, run aimlessly about the room, bite her nails, would occasionally bite others, and even strike or throw objects at them. Often she would spit on people near her. Now and again she would tear paper or her clothing. While at the Children's Memorial Hospital she spit chewing gum during one of these attacks into the hair of the Chief of Staff.

At other times she tore her hair and ate it. She was very destructive, ate the calcimine off the wall and cut up her nightgowns. She was very stubborn and tormenting, but often was excessively affectionate and demonstrative. She slept poorly at night, a condition which was quite common among these post-encephalitic patients.

Her mental age was found to be ten years and two months when her chronological age was thirteen years which gave her an intelligence quotient of 83.5%. This classified her as a moron.

She was examined and treated in various hospitals but was found to be so incorrigible that she could not be kept with other children. She treated them cruelly and tormented them continually. She became a chronic masturbator and taught others the habit.

When she was heard of last, she was being cared for in her own home, but continued to cause so much trouble that she was brought to the Juvenile Institute several times with a request for disposition.

CASE 3

Grace L. was eleven years old and was previously healthy and well behaved until an attack of Scarlet Fever with an accompanying encephalitis occurred in November and December, 1918. She was detained at the Durand Hospital for about a month. Previously she had gotten along well in school except that her progress was somewhat slow. She had had no behavior difficulties. Following this illness her scholastic work became very poor, her deportment

bad both at home and at school and she was dismissed from school because of incorrigibility, after several transfers.

She had "panting spells" similar to Ethel S.; in fact, there was no essential difference between the two cases. She also became quarrelsome, fought, attacked, kicked, spat at others, was disobedient, noisy, constantly restless, talkative, impudent, swore, made foolish statements, lied, was emotionally very unstable, cried easily, and was equally liable to laugh the next minute. She was unnecessarily affectionate, unclean and untidy. She slept a great part of each school session and then lay awake at night. Once she shouted out in the schoolroom when a distinguished visitor was present, "You are cute."

On mental examination she had a mental age of seven years and ten months when her chronological age was eleven years, which gave her an intelligence quotient of 72.3%. This classified her as a moron.

She was likewise a problem for disposition, but no adequate place except her home was found in which to keep her. Because of the poverty of the family, this was found to be very difficult.

CASE 4

May S. was fifteen years old and had had lethargic encephalitis in March 1920, during which illness she "slept for three weeks." Before her illness her deportment had been good and she had not been quarrelsome. Following her illness, because of the disturbances which she caused in school, she was expelled. Now she is quarrelsome, dissatisfied, cross, constantly restless and moving, has persecutory ideas with reference to her teacher. She has struck her classmates unnecessarily, is usually obstinate and sullen, but at times very loquacious. But she has had no definite delinquencies.

On physical examination she was found to have a divergent strabismus, a sluggish pupillary light reaction, a coarse tremor of the tongue, and a deviation of the latter to the left when protruded.

On mental examination she was found to have a mental age of thirteen years and ten months when her chronological age was fourteen years and ten months, which gave her an intelligence quotient of 93.2%. This classified her in the group with normal intelligence.

She was brought to the Juvenile Institute because of her incorrigibility, but institutional treatment was again not available and the patient is being kept at home with considerable difficulty.

CASE 5

George M. was eleven years old and had had "brain fever" in March 1920. He had been ill one month. Previous to this illness he had made regular progress in school, but following it he was unable to complete his grade, his school attendance became irregular and he frequently went to sleep while in class. He also had "panting spells" during which he breathed as rapidly as if he had been running. Sometimes he blew on his fingers, or upon pieces of paper, a phase of excitement which was similarly noted in the cases of Grace L. and Ethel S. He quarreled, fought, was disobedient, constantly restless, screamed out in his sleep, talked foolishly and silly, was untidy and refused to dress himself.

His mental age on examination was found to be seven years and two months when his chronological age was ten years and three months, which gave him an intelligence quotient of 70%. He was classified as a moron.

He was ultimately committed to the Chicago Psychopathic Hospital because he attacked a neighbor child with a knife. However, he was not ad-

judged insane and was later released to his home where he has since remained.

CASE 6

Solomon H. was fourteen years old and had had lethargic encephalitis in November 1919. He was ill in Wesley Hospital for three months. Before his illness he was a good scholar and his deportment was excellent. In school he had reached the sixth grade at eleven years of age.

Following his illness he was expelled because of his incorrigibility. He was quarrelsome, quick tempered, disobedient, struck at and slapped other children and frequently threw anything at hand without provocation. He was very restless and constantly active. He muttered to himself, made facial grimaces, was impudent and bold toward strangers.

Physically he had a tremor of the tongue, a twitching of the face and extremities, unequal pupils, defective vision, a positive Babinski on the left side, a festinating gait and was constantly drooling.

On mental examination when his chronological age was thirteen years and ten months his mental age was found to be thirteen years and seven months which gave him an intelligence quotient of 98.2%. This classified him as having normal intelligence.

Solomon likewise attempted to attack a neighbor child with a knife and was committed to the Psychopathic Hospital from which he was ultimately sent to one of the State Insane Hospitals.

CASE 7

Marie B. had "brain fever" in 1919 following an attack of influenza. Previous to her illness she had done good school work and was quiet and well behaved. Following her illness she was expelled because of her incorrigibility. She cried easily, had a violent temper, threw dishes at people, and once kicked her grandmother so violently in the abdomen that she knocked her unconscious. She was very cruel, tormented smaller children by twisting their hands, grabbing their throat, bending their legs, or biting them. She lied and made up fanciful stories about people. At times she was unnecessarily affectionate and liked to attract attention. She attempted suicide twice by turning on the gas. She ate ravenously and immediately induced emesis by sticking her finger down her throat.

One of her last escapades consisted in choking two smaller children, for which she was stoned by the angry neighbors and only saved by the intervention of the police. She was taken to the Juvenile Detention Home for her own protection. The following day, however, she persistently denied the delinquencies of the night before.

On physical examination she was found to have rhythmical contractions of the muscles of the left side of the face, a deviation of her mouth to the left, an area of hyperaesthesia in the left lower quadrant of the abdomen and slurring speech.

Her mental age was found to be eleven years and four months when her chronological age was fourteen years and five months which gave her an intelligence quotient of 78.6%. This classified her as a moron.

CASE 8

Irene F. had lethargic encephalitis in 1918. She was placed in various hospitals for treatment and because of her behavior difficulties tried in many homes. She was finally brought to the Juvenile Institute for examination. Previously she had been well behaved and had had no difficulties in school, but following her illness, she had many attacks resembling epilepsy. She became quarrelsome, tor-

menting and incorrigible; she attempted suicide with a knife without serious consequences. She was sleepy during the day and went out at night; shouted and sang while in bed. She had a voracious appetite and has had sex relations with several boys in the neighborhood. She once fell asleep in the bathtub of the Presbyterian Hospital. Because of her incorrigibility she was committed to the Juvenile Detention Home from which she was ultimately recommended to be committed to the Feeble Minded Colony at Lincoln for want of a more satisfactory institution.

On physical examination except for a considerable amount of lethargy and the fact that the left pupil reacted more slowly to light than the right, she was negative.

On mental examination, when her chronological age was twelve years and three months, her mental age was found to be nine years and two months, which gave her an intelligence quotient of 74.8%. This classified her as a moron.

SUMMARY

These cases, I believe, illustrate a few of the many bizarre changes which may occur in the behavior of children following an attack of encephalitis. While there are a great many characteristics which are common to all, it hardly seems possible to call this combination of symptoms a symptom complex. However, there are a few symptoms which may be mentioned as common to all. All these children were previously normal and following their illnesses underwent complete changes in personality. They became quarrelsome, destructive, cruel, emotionally unstable, untidy, slept poorly at night, were very restless and they were all unable to continue school work and were eventually expelled from school. So called "panting or breathing" spells were quite characteristic and found in three cases.

There were various delinquencies which were not common to all, but which were nevertheless marked behavioristic changes, viz., lying, stealing, sex hyperactivity, attacks upon smaller children and attempted suicide.

These acts in many instances constituted a serious menace to society and were so anti-social that in several cases the institutionalization of these children became necessary. This institutionalization was, however, in most cases a very unsatisfactory one. Hospitals ordinarily devoted to the care of sick children could not keep these individuals because of their incorrigibility; their commitment to insane hospitals was not deemed advisable although two were sent there; and they were not eligible for the feeble-minded institutions. Consequently it was evident that in the State of Illinois there was no satisfactory institution in which to place these children.

We prefer to regard these children as sick both physically and mentally and we feel that states should make some provision for caring for these urgent cases. We believe that the

prognosis for improvement is unfavorable and that these children will become adult behavior problems in due time. Their destructive ten-

dencies and attacks upon others constitute a menace which should demand immediate provision for their care.

PUBLIC HEALTH EDUCATION

The function of the Joint Committee representing the University of Michigan and the Michigan State Medical Society is to present to the public the fundamental facts of modern scientific medicine for the purpose of building up a sound public opinion concerning questions of public and private health. It is concerned in bringing the truth to the people, not in supporting or attacking any school, sect, or theory of medical practice. It will send out teachers, not advocates.

IX.—PHYSICAL EXAMINATIONS (Continued)

THE PHYSICIAN AND PUBLIC HEALTH

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In the foregoing discussions of the relations of physical examinations to the promotion of health—positive health, physical efficiency, an effort has been made to show that the periodic “overhauling” with its accompanying instructions and advice relative to the right methods of living and with “follow up” activities whereby it is “seen to” that the recommendations are put into effect; is our most efficient and far-reaching instrumentality by which the physical efficiency program is to be achieved. In fact, without the physical examination this most important interest and activity of public health can never be realized.

Furthermore, the disease prevention and control phases of public health depend, in the very largest measure, on the periodic physical examination. Assuredly, if the thorough physical examination with its educational and its corrective accompaniments had been the universal practice, let us say for the past fifty years, the problems of tuberculosis and of venereal diseases would now be solved. Already we have learned that the most serious diseases in our latitude with which we must contend in the future are those diseases that are spread from one person to another by means of close social contact and intercourse. The Carrier, the Prodrome, the Mild or Missed case and the Convalescent—those who keep diseases alive and “a going” in our society, can be detected only by dealing directly with people and through the media of personal inspection and physical examination, therefore, it is the physical examination that is going to prove to be our most effectual weapon of defense and attack so far as the control and eradication of communicable diseases are concerned. Physical examinations, then, are of inestimable value in both phases of public health interests and activities.

It is by no means visionary to assume that in the not far distant future, society, for its own welfare and security, will demand that each of its free individuals carry or possess a “bill of health.” Even at this date, public schools, universities, insurance companies, business and industry are demonstrating the academic, social and economic values of peri-

odic physical examinations, evidences of which are to be seen in the carefully filed personal records or “bills of health.”

During the past era of public health activities in the United States, when the key word was the “germ” and bacteriology represented practically the whole of public health, naturally, the chief exponent of public health was the laboratory worker. Directors and workers in public health were recruited largely from bacteriologists; laboratorians and sanitarians. In fact, contentions were made at that time that the public health field lay quite outside of the medical profession.

Our new era in public health; with its new interest in positive health and physical efficiency and with the newer knowledge that disease prevention and disease control are, in the very largest measures, personal problems; is marked by a definite trend on the part of public health to return to the medical profession. While the engineer, laboratorian and sanitarian will continue to be important adjuncts to public health, its chief exponents or intensive workers in the future, will be the physician and the nurse. There can be no efficient public health without the closest co-operation of the medical profession.

It has already been intimated that in order to conduct a physical examination from the view point of hygiene or preventive medicine; one that will detect early every unfavorable factor which may be causing a present lowered condition of health or which may later, if neglected, develop into some serious malady; requires on the part of the examiner an extensive and intensive training along the lines of both physical and laboratory diagnoses. The first and most essential need; in order to proceed effectively with our future public health program and, therefore, achieve genuine and far-reaching results; is to produce efficiently trained physical examiners. This will be one of the greatest contributions on the part of the medical schools to public health. Assuredly, it is urgent that medical schools give this matter their most serious consideration.

It is needless to point out here that the physician, who is well trained in the methods and technic of making physical examinations and who can interpret the findings with a view of preventing and correcting the various maladies of life, is going to be the most important functionary in future public health activities. In fact one may well say that future public health is to be characterized by the interest and activities of physicians and that genuine progress will be in proportion to the number of scientifically trained physicians interested and engaged in its activities.

Interest in the periodic overhauling is even now wide-spread. People are beginning to demand this fundamental health measure. This wide-spread de-

mand is the direct result of the education of the public along the fundamentals of health promotion and disease prevention. Industries, schools, universities, insurance companies, have and are contributing to this challenge on the part of the people. The physician's chief concern at the present moment should be that no illy-constructed legislation bearing all the undesirable features of compulsory social insurance is suddenly enacted. There is danger, however, unless physicians make this matter their chief concern in the immediate future. It must be understood by the laity that the physician has not been nor is now opposed to any measure which has for its object human betterment. No profession has contributed more freely of its services towards the health of the community than has the physician. Indeed, the medical profession has borne the greatest share of the burdens. The laity must appreciate further that no legislation which has for its object universal medical service must be enacted unless it has the approval of the medical profession. For it is the physician who is going to be chief agent concerned and without his sympathies and approval such laws will be not only non-effective but even pernicious.

The medical profession, on the other hand, must acquaint itself with the new and growing demands on the part of the public for physical examinations from the view-point of hygiene and preventive medicine. The more it discusses this problem with a view of organizing to meet these demands the less need be the fear of objectionable legislation.

Assuredly, it is high time for physicians to make this problem their most serious consideration for society is learning rapidly that the sound, active, vigorous and harmonious development of its individuals, so that they may carry on their economic burdens satisfactorily and serve efficiently the communities in which they live, is its greatest need in order to assure its safety and progress. Furthermore, society is beginning to realize that the main approach to this ideal is the physical examination. As a witness to the truth of this insertion, let us once more refer to the New York Life Extension Institute.*

Already references have been made to the activities of this agency. Its growth has been phenomenal and the services it has rendered to approximately one-quarter of a million of people along the lines of physical efficiency are of inestimable value.

It was organized in 1913. Mr. Harold A. Ley of Springfield, Massachusetts and Professor Irving Fisher of Yale were the prime movers in organizing the Institute. Ex-president Taft was elected Chairman of the Board of Directors and a Hygiene Reference Board of 100 leading scientists and educationalists in the United States was formed under the chairmanship of Professor Fisher. Dr. Eugene Lyman Fisk was appointed medical director.

The aims and objects of the organizers of the Institute are summarized as follows:

(1) To direct the efforts of the Institute, not only to the prevention of disease, but to its early discovery. Therefore, periodic health examinations are urged to the end that health and life may be conserved, and that the custom of having health examinations may be encouraged and eventually become a common practice among our people.

(2) To establish and maintain a central institute of national scope and purpose supported by a large board of recognized authorities in the various fields of health and life conservation fully equipped to render this service.

(3) To engage trained physicians throughout the

country, and to establish laboratories for the purpose of carrying on physical examinations and research work. (In addition to its Head Office Staff, more than 6,000 examining physicians are now in the service of the institute in the different towns and cities throughout the United States and Canada.)

(4) To provide a responsible and authoritative source from which the public and the medical profession may draw knowledge and inspiration in the great war of civilization against needless sickness and premature death.

(5) To give special attention to the teaching of the rules of individual hygiene or healthful living by means of monthly Health Journals, popular lectures, scientific papers and addresses and books of instruction, to the end that not only the ravages of communicable disease may be stayed, but that the increasing waste of vitality and human life from the chronic diseases may be checked.

(6) To give consistent support and encouragement to the public health service, local, state and national.

It must be emphasized here that the purpose of the examination is to prevent disease and subnormalcy and to warn the examinee of imminent retrogressive processes when such are detected during the process of the examination. The institute does not provide treatment of any kind. Where medical or surgical treatment is found to be essential, the examinee is referred to competent physicians or surgeons, preferably to the family physician. "It is interesting to note that on conservative basis of estimate, the Institute has referred its examinees to their family physicians for medical treatment which, at an average rate of medical charge, would represent fees amounting to between five and ten millions of dollars." The Institute does not practice medicine.

From 3,000 to 5,000 people are examined each month. The annual total examined amounts to approximately 30,000 men and 15,000 women. Any one may subscribe to the Standard Health Service for \$20.00. This service includes (1) a thorough physical examination including blood and urine; (2) a study and comparison of the physical findings by the Institute's Reviewing Staff; (3) detailed report of the findings of the physical examination with suggestions and advice to the examinee with particular reference to correcting any impairment or disability; (4) standard weight chart and counsel covering weight; (5) mid-year review by means of questionnaire; (6) educational health literature.

Special services are provided such as neuropsychiatric, heart, etc., for which additional fees are charged. Thirty physicians make up the medical staff and one hundred and twenty technicians are employed. A consulting staff is maintained. Not only do individuals come in of their own free accord but the Institute is now employed by seven insurance companies who offer the physical examinations to their policy holders. Already we have referred to the cash savings of one of these companies—The Metropolitan Insurance Company, by having a certain group of their policy holders examined and advised.

According to the balance sheet of the institute for the year 1921, the net operating profits were \$17,265, and the total earnings were \$448,007.85. All profits have been utilized for expansion and for health education. It is contemplated in the future to utilize profits to support health activities in certain universities. No dividends have been declared.

All of these details are interesting, no doubt, to the physician. The amazing thing is the rapid growth and the extensive activities of an agency concerned with the promotion of health through the physical examination and its accompanying health education. Assuredly this experiment on the part of one life saving agency indicates the growing interest on the part of people in matters pertaining to health and personal efficiency.

The success of this institute suggests that the future will see many similar scientific health in-

*The New York Life Extension Institute is located at 25 West, 45th St., New York City. It has published many exceedingly interesting and valuable pamphlets along the lines of human conservation. Doubtless many of these are available to physicians.

stitutes in the United States. Some are even now in the process of germination. It is not visionary to assume that the health examination institute in the future will become as popular and noteworthy in every respect as are certain clinics, at the present moment, that are devoted to curative medicine.

Assuredly, the "positive health and physical efficiency" clinics or institute offers a specialty to the on-coming physician, and with the ideal co-operation with scientific curative medical practice, the work of these clinics are going to be of inestimable value to mankind.

The Life Extension Institute suggests one method of organization and operation when it comes to voluntary pay patients. But, obviously, that which is going to concern the physician more than the pay examinee is naturally the "non-pay" or "little-pay" individual who applies for a physical examination. And as time goes on the objects of more or less charity will present themselves in increasing numbers for health examination, for the community will soon realize that its welfare is not safe and secure so long as disseminators of disease are loose in its midst and subnormalcy, which costs society so much to care for, is prevalent. Let us see what one community has done relative to the physical examinations of its individuals. That the community of the future will need and will demand physical examinations of all its members as a part of an intensive health program is suggested from the following experiments:

(1) Framingham Community Health and Tuberculosis Demonstration: Framingham, Massachusetts, was selected as the recipient of an intensive and extensive health demonstration with a view of determining just how healthy a community may be made through proper co-operation and concentrated effectual application of the things worth while in public health work. The Metropolitan Life Insurance Co., realizing the values of such activities, donated \$100,000 for this intensive community health survey. The work was started in December, 1916. Space will not permit of a review of the various health activities conducted by the committee in charge.* We shall limit our comments to the physi-

*Nine Monographs (Framingham Monographs Nos. 1 to 9) covering the various phases of this demonstration have been published. These should prove to be invaluable to all interested in public health. Information regarding these monographs may be obtained from the Community Health Station, Framingham, Mass.

cal examination activities.

It was considered that the medical examination work was of prime importance for the following reasons.

(1) As a measure for obtaining an accurate cross section picture of illness in a supposedly normal group, with special reference of course to tuberculosis.

(2) As a measure for obtaining an accurate figure on actual illness for comparison with health census findings regarding admitted or recognized illness, thereby furnishing a basis for a possible relative index.

(3) As a means of securing figures regarding illness prevalence at the beginning of the Demonstration, for comparison with similar data at the end of the Demonstration.

(4) As a practical means for discovering tuberculosis.**

**Framingham Monograph No. 4, II Medical Examination Campaigns, p. 5.

This interesting monograph discusses the procedure—preliminary steps, publicity, canvassing families, examinations, special examination days, follow-up work, statistical tabulations and records, staff, and gives the results and conclusions. The number of examinations made in two drives were 4,473. The campaign was put on much like a Red Cross

drive or a liberty bond sale. The city was organized into wards and then into small units until every family was solicited. Of course, the examinations were voluntary. Space will not permit us to insert the interesting tables and analyses of the defects and illness found among various age groups. The monograph should be studied by all interested in the physical examination aspects of public health. The points germane to this discussion are found in the following conclusions:

"It is clear that the most economic and satisfactory method of carrying out examination work on a large scale is to have the examinations made in the home. Presumably this conclusion may be somewhat subject to modification when one considers the adaptability of the plan to larger cities.

"Looked at from the point of view of the per capita cost, this type of medical examination work does not appear to be inordinately expensive. The average per capita cost was \$1.84. Seventy-two physicians were employed in the first drive and twenty, in the second drive. While few physicians contributed their service, most of them were compensated at the rate of five or ten dollars a session. The physicians were amply assisted by nurses, recorders, etc."

The Framingham experiment is inserted here with a view of showing what can be done by a community in putting on an intensive physical examination week campaign, by availing itself of the services of all those interested. More than one-half of the families of Framingham were reached and the cost of these examinations, per capita, was surprisingly low.

(2) Mansfield Child Health Demonstration:* Sev-

*See Nations Health, Sept. 1922.

eral nation-wide voluntary health organizations, namely; American Child Hygiene Association, American Red Cross, National Child Labor Association, National Organization for Public Health Nursing, National Tuberculosis Association, selected Mansfield, Ohio, as the most ideal city to carry on an intensive health campaign with particular reference to child conservation. Naturally as child hygiene is inextricably interdigitated with all other phases of public health, the entire field of public health must be covered. An appropriation of \$200,000 was made by these associations. This sum will be augmented by community support. The experiment is to be conducted for a period of five years. Again we must omit consideration of the general activities of this demonstration. Already thousands of examinations, particularly of school children have been made. The routine physical examinations of school children are conducted by co-operative efforts. Volunteers from the Parent-Teachers Association do the clerical work. Nurses do the posture, hearing, eye and preliminary nose and throat examinations. The school teachers take the height-weight measurements. This is followed by a mouth examination by dentists. Finally the child is passed on to the physician who completes the examination. The whole process is a marvel of efficiency and economy and cian who completes the examination. The whole process is a marvel of efficiency and economy and shows what can be done through intelligent co-operation.

(3) Arlington County Virginia Health Demonstration: This is being conducted now in co-operation with the United States Public Health Service.* An

*Information regarding this demonstration may doubtless be obtained from the Surgeon General, United States Public Health Service, Washington, D. C.

intensive health campaign is being conducted along the personal, environmental and educational phases of rural health work. Particular attention is being paid to infant welfare and to school hygiene. The county physicians are co-operating in every respect in helping to conduct the various baby clinics now

being held in permanent quarters. Likewise, this co-operation exists freely with the public school examinations.

It has not been my purpose to describe in any detail the various interests and activities of these intensive demonstrations along the lines of community health. We only want to point out that the physical examination and diagnosis involving the services of physicians have been among the chief interests and activities of these demonstrations. There are many more of these community health demonstrations, in which physical examination is the most important activity, going on in various parts of the country. The Sheppard-Towner Law is stimulating, to a very high degree, this type of health work. All these health demonstrations through their wholesome efforts on the community and through education of the masses are contributing to a wide-spread movement on the part of society to protect itself and to heal itself through the instrumentalities of the physical examination. There is danger that this movement will engulf the medical profession before it is prepared to direct its course.

We must remember that the so termed Standard Bill prepared by the American Association for Labor Legislation and modelled after the Compulsory Health Insurance Law of Great Britain has been introduced into the legislatures of New York, Massachusetts, and New Jersey. The Nicoll Bill introduced in the New York state legislature, 1918, and the Davenport Bill introduced in the legislature of the same state, 1920, are modifications of the Standard Compulsory Health Insurance Bill. Twelve state legislatures have already considered similar bills.

Physicians in general are familiar with the objectionable features of compulsory health insurance. Passed experience with health insurance in other countries demonstrates beyond doubt that it leads to malingering, invalidism, and fraudulent practices on the part of the people concerned. Compulsory health insurance does not promote interest in positive health and physical efficiency and disease prevention which are the prime objectives of public health. People so insured, as a rule, are infinitely more concerned with the cash benefits to be derived. Furthermore, all forms of compulsory health insurance tend to demoralize the medical profession. The panel system puts a premium on superficiality and on careless and unskilled medical practice.

It seems imperative, therefore, that the physicians take serious cognizance of this "trend of our times" towards community health problems. By virtue of his training and of his profession, the physician is the chief individual to be involved. The medical profession must earnestly seek for the solution. It must direct this movement on the part of society to attain and maintain positive health.

As a suggestion for discussion before medical societies relative to relationships of the physician to public health in its newer aspects, let us quote here from one of our ablest of state health commissioners—Dr. Rankin of North Carolina.*

Dr. Rankin's plan: In a recent paper he calls the attention of the medical profession to the unoccupied field of medicine—to wit, approximately 750,000 births a year in the United States unattended by physicians, the appalling number of children with defects and disease whom physicians never see, the extensive prevalence of venereal disease—perhaps not more than 40% treated by the profession, and so on. The following is Dr. Rankin's recommendation for supplying the increased demands that are to be made on the medical profession in the future:

"As organization of the local unit of the profession, that is, the county medical society, is necessary to increase the demand for medical science and enlarge the field of medicine, so, too, the organization of the county medical society for the purpose of supplying the increased demand will be necessary. I shall touch only briefly on this phase of the subject.

"The primary demand will be for examinations and diagnosis. The educational work above outlined will cause hundreds and thousands of those who become interested in the matter of health to wish to know whether they have an incipient or unrecognized disease or impairment, or whether, by alterations in living habits, their health may be promoted to a higher level. A secondary demand that will arise in consequence of such physical examination will be a more extensive demand for treatment.

"In providing for these two demands, more adequate diagnosis and more adequate treatment through organized effort, it will be found that the plan of organization will involve both the local profession and the public, and will embrace both professional and business considerations—the former relating to the profession, the latter to the public. The two organizations, professional and public, and the two main considerations, professional and business, will merge and find their proper relation in a public county clinic, run and manned by the profession and financed by the community.

"In considering the professional organization of such a clinic in an average county of twenty-five practicing physicians, a service of four hours a week for each physician would provide 100 hours of professional service every week for the county. Such a public clinic could operate two afternoons, for four hours each, every week, with twelve physicians in attendance; or four afternoons, for two hours each, with ten physicians in attendance; or four afternoons, for three hours each, with eight physicians in attendance. However, the number of hours served by the combined county medical society, and their arrangement of one day, or one afternoon, or several afternoons, and in groups of four, six, eight, or ten physicians, are details for the consideration of the local county society. With 100 hours a week, and with physicians working in groups as they did in examining the drafted men during the war, from 100 to 150 people a week, from 400 to 600 a month, from 5,000 to 7,000 a year could be examined.

"As a result of these examinations, a greatly increased demand for medical treatment will inevitably arise. Those needing and seeking treatment may be classified into those who can pay and those who cannot pay. The first class would be referred by the clinic to their family physician. In considering the second class, those who cannot pay, the charity practice of the county, we come to the business considerations involved in this organized effort to meet the increased demand for medical science.

"In dealing with the business elements which enter into this problem, it will be well to observe, at the outset, that the burden of charity practice, constituting from 20 to 40 per cent of practice, should not rest on twenty-five citizens of the county; that is, on the twenty-five practicing physicians; but it is a burden which should be distributed and which should rest on the entire citizenship of the county, its 30,000 people. All treatment administered in the clinic to the needy should be paid for by the public, and the funds paid in divided among the physicians serving the clinic, according to details to be worked out jointly by the county medical society and the group representing the public.

"In securing funds for such a clinic, the following possible sources are to be considered: (1) a nominal charge against all who apply for clinic benefits; (2) local Red Cross chapter funds; (3) local funds received through the sale of Christmas seals; (4) appropriations by the city or town authorities; (5) appropriations by the county authorities; (6) an annual church collection from the churches of the county in response to the commission "heal the sick" and (7) contributions from benevolent and financially able citizens of the county. With the educational work on which all this is predicated, the necessary revenue to maintain a public clinic would be assured.

"A business organization of interested, broad-visioned, public-spirited men and women should be effected, in order to organize the people of the county around the clinic. Such a lay organization would assume two definite tasks: (1) arranging for the places and notices for public addresses by the physicians, and (2) securing funds with which to finance the clinic.

"The local medical society would work out with this group of business men, and define on paper, the conditions under which the business group, representing the community, would issue cards of admission and requisitions for treatment to those who applied. In the whole scheme, the local society, through organized effort, would assume the initiative, and approve everything that was done in providing for both the increased demand with respect to diagnosis and the increased demand for treatment.

*The Mutual Interest of the Profession and the Public. Journal A. M. A., July 22, 1922, p. 281.

"The profession at present is extensively and intensively interested in the development of public hospital facilities. This is a worthy interest, and should be encouraged in every way. But the hospital is something that will come only when the local county people have been informed through educational methods as to the prevalence and meaning of disease and impairment; and when they have demonstrated, through a public clinic, what can be done through organized effort in the treatment of disease and impairment. In short, public organization to care for disease and impairment in an adequate way will follow and never precede professional organization. We shall have organization and co-operation without when we have organization and co-operation within."

Since the completion of this paper, we have received the following information:*

"The Commonwealth Fund has decided to finance a thorough child health program in three typical cities for a period of five years. The general qualifications of the first city to be selected are that it should be from 15,000 to 25,000 in population with an infant mortality of approximately 100 per 1,000 live births, or greater.

"The announcement of this action was made by Courtenay Dinwiddie, executive secretary of the committee which has been organized to direct the work. The program will comprise safe-guarding the health of the mother-to-be, laying a good health foundation for the child in the early sensitive and formative period of their growth and health supervision and the formation of the essential health habits in school children.

"The responsibility for carrying out this comprehensive child health program is placed upon the American Child Hygiene Association and the Child Health Organization of America. The American Child Hygiene Association has been working for thirteen years with might and main to make life safe and development sound for mothers and young children. The Child Health Organization of America has made remarkable contributions in the field of health education of school children."

ADRENALIN

When the pressor principle of the suprarenal gland was first isolated it was called Adrenalin by the manufacturers who introduced it to the medical profession. The derivation of the word is obvious—from the adrenal (or suprarenal) glands. And for several years after the product was made available commercially, it was reported upon in the medical press, both here and abroad, as Adrenalin.

In fact the full momentum of clinical observation with reference to the various applications of the pressor or blood-pressure-raising principle of the suprarenal gland was provided by means of Adrenalin, the Parke, Davis & Co. product. This fact is of some significance, even now, for two reasons: First, Adrenalin has always been standardized, we understand, by the blood-pressure method; second, all products of this class are subject to molecular changes which have a bearing on their activity, and long experience in manufacture has doubtless revealed not only the danger, but also how to avoid it.

Adrenalin blanches the inflamed conjunctiva when applied in a dilution of 1 to 10,000; the blood-pressure of anesthetized dogs is materially increased by the intravenous administration of less than one six-thousandth of a grain. This phenomenally powerful drug is applied topically in solution to mucous membrane in non-infective inflammations of all kinds, including hay fever, administered subcutaneously in bronchial asthma, urticaria, serum anaphylaxis, and certain forms of hemorrhage, and given by vein in shock and collapse. The heart that has ceased beating has been known to respond to the direct application of Adrenalin.

Parke, Davis & Co., offer a booklet on Adrenalin to interested physicians.

CANCER IN MICHIGAN AND ELSEWHERE

The cancer problem is a serious one in Michigan. Cancer ranked third in this state as a cause of death in 1921, and was exceeded only by apoplexy and heart disease. The cancer death rate for that year was the highest in the history of the state the year of 1921, 3,304 people died from cancer (a death rate of 86.5). Cancer is not confined to any particular portion of the state nor is it by any means confined to the city as against the country. In 1921, there were 1,381 deaths from cancer in strictly rural districts and villages of less than 2,500 population (equivalent to a death rate of 95.4 per 100,000 population) whereas in the cities of 2,500 population or over there occurred 1,923 deaths (equivalent to a rate of 81.1 per 100,000.) The greater opportunity for medical consultation and advice offered in the cities might account for this difference. Every county in the state had some deaths from cancer although three of the counties (Crawford, Oscoda and Gladwin) had only one death each from this cause in 1921.

Vermont, Maine, New Hampshire, Massachusetts and California had the highest rates in the United States from 1911 to 1921. The states in the immediate vicinity of Michigan (New York, Indiana, Wisconsin, Ohio, and Minnesota) all showed higher rates than Michigan. The cancer death rate in this state has advanced continuously from 1901 to the present time. This increase is not as great as it would seem as better methods of diagnosis and more careful statements of causes of death on death certificates undoubtedly represent some portion of this increase.—(W. J. V. Deacon, M. D., Mich. Public Health Bulletin, Nov. 1922.)

MULTIPLE SCLEROSIS

Multiple Sclerosis—If multiple sclerosis is a disease entity due to a single cause that acts in early life, it may be due to some specific infection but the evidence available is strongly against its being caused by any of our well known infections, by any ordinary intoxication (organic or inorganic), or by electrical thermal or traumatic influences. If the exogenous factors mentioned play any role at all in the etiology of the disease, they must act either as predisposing influences for the true cause or as aggravators of a disease already started by the true cause.—(Lewellys F. Barker, M. D., Archives of Neurology and Psychiatry, July, 1922.)

THE JOURNAL
IS
YOUR FORUM—
WE INVITE YOU
TO UTILIZE
IT FOR THE
EXPRESSION OF
YOUR VIEWS
ON
MEDICAL SUBJECTS

*American Physical Education-Review, p. 434.

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

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R. C. Stone.....Battle Creek
J. McLurg.....Bay City
R. S. Buckland.....Baraga

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JANUARY, 1923

**Report Malpractice Threats
Immediately to Doctor F. B.
Tibbals, 1212 Kresge Bldg.,
Detroit, Mich.**

Editorials

ANNUAL MEETING OF THE COUNCIL

The regular mid-winter annual meeting of the Council, will be held in the Michigan-Union, Ann Arbor on January 16 and 17, 1923, for the transaction of such business as may properly come before the Council.

The first session will be held at 6 P. M., on January 16. The second session at 9 A. M., January 17.

The Council will meet in joint session with the Joint Committee on Public Health Education on January 16 at noon, in the Michigan-Union.

A. L. SEELEY, Chairman.
F. C. WARNSHUIS, Secretary.

OUR RELATIONSHIP TO THE COMMUNITY

The above heading is suggested to us by an incident that has occurred in Grand Rapids and in which the doctors of Grand Rapids

came to the front in a manner most commendable. But let us tell the story—necessarily it must be abbreviated.

A new hospital was needed in Grand Rapids. Its cost is one and a quarter million dollars. One generous donor gave seven hundred and fifty thousand dollars, leaving a balance of five hundred thousand to be raised by the public. A public campaign was organized. The campaign extended over one week. At the beginning of the campaign the staff of the hospital underwrote a subscription of \$30,000. A special meeting of the Kent County Medical Society was called. Plans were so developed that the doctors outside of the staff contributed \$12,707, making a total of \$42,707 or almost one-tenth of the total amount, subscribed by the medical profession of Kent County, composed of 198 doctors. The campaign fund asked was oversubscribed—\$674,945 was the total subscription.

At the preliminary publicity meetings the public criticism was centered on one large objection: "Why should we contribute to build a workshop for the doctors?" Foolish and ignorant was such objection we know. What was done was that the public was educated and enlightened as to the work done by hospitals, methods of service, expense involved and the time that is daily contributed by doctors without remuneration. They were shown the community need for a hospital and how scientific medicine can save lives in properly equipped institutions, etc., and to this there was added the \$42,000 in subscriptions by the doctors themselves.

The result, the objectors were subdued and the fund was oversubscribed by \$174,945. That is the story in brief. The lessons gained are as follows:

First, the public gained a much needed insight as to administration of hospitals. They became interested in the problem and that interest is bound to grow through the years for the good of the hospitals of Grand Rapids.

Second, the medical profession demonstrated that it recognized its community responsibility and community association by coming forth with a magnificent financial subscription. This was recognized by the public and many were the compliments that were handed the profession. This action has raised the profession a thousand-fold in the eyes of the public and has gone far to wipe out the growing charges of commercialism and selfishness.

Third, it cemented the medical fraternity and has gone far to unite them for work for the good of the public and for themselves.

Fourth, it has demonstrated that we can

obtain the confidence and good will of the public in medical matters if we but mould our activities.

THE ADVANCEMENT OF MEDICINE IN DETROIT

We are very glad indeed to publish in this issue the address of the President of Wayne County Medical Society. In commenting thereon, we reprint the comment published in the Wayne County Bulletin.

Elsewhere appears the annual address of the retiring president of the Wayne County Medical Society. Dr. Davis has made some interesting and important comments on medicine in Detroit, which the medical profession here can ponder with profit. Detroit is the only city in the world with over half a million population which has not a complete university. This city has the reputation of contributing but very little to medical literature. The essayist goes on to institute a comparison between the number of autopsies performed in Detroit with those performed in other cities, the comparison being to Detroit's disadvantage. The figures given by Dr. Davis are interesting. Too much stress cannot be laid upon this feature of medical study and medical teaching, inasmuch as a well performed autopsy means a study at first hand of the end results of disease. New York, Chicago and Philadelphia have each four class A medical schools, while in Detroit we have only one without endowments and without adequate buildings. Only fifty-five out of two hundred and eighty-five qualified students could be admitted to the freshman class owing to the lack of capacity to handle them.

To return to the subject of post mortems, the speaker attributed the few autopsies done in Detroit to the fact that the public thought post mortems were done either through a morbid curiosity or confession of diagnostic failure. To remedy this, public education is needed. The aim should be to instill in the public mind that all autopsy work had for its ultimate aim the betterment of the condition of the living. Even the coroners' cases are not used at all to the advancement of the science of medicine. If careful autopsies were made of all coroners' cases we would have a good beginning for the first-hand study of gross pathology.

It cannot be denied that there is a strong demand for both graduate and under-graduate medical teaching here. The two hundred and eighty-five applicants for Detroit College of Medicine is sufficient proof of the under-graduate demand. The fact that Detroit doctors have gone so far as to hire an instructor from another city to give short special courses is

evidence of the demand for post graduate work.

We feel that Dr. Davis has stated the case very clearly. The next step when confronted with such an arraignment is to endeavor to explain things away. The prime requisite for post graduate work in any center is a full degree conferring university. It is significant that when the Mayos established the Mayo foundation they went nearly one hundred miles away to affiliate with the University of Minnesota. We know of no post graduate medical work that is not part and parcel of university teaching. It behooves us as medical men to create a public opinion favorable to the foundation of a university for Detroit with full degree granting prerogatives. This will relieve the congestion to a large extent with the University of Michigan as well as fill a vital need here in the metropolis of the state. J.. H. D.

We urge that our members read this admirable address. It applies to the state as well as to Wayne county. Advice, such as this, is not idle rambling. It is definite and to the point. As we conform to these recommendations, so will we enhance our individual and collective worth. We have idled far too long.

DETROIT POST-GRADUATE LECTURES

The Board of Trustees of the Woman's Hospital, of Detroit, wish to announce the third annual series of Post-Graduate Lectures.

These lectures are so arranged that they offer to the busy practitioner an excellent opportunity to keep in touch with the latest developments of medical science. The courses are open to any physician or medical student. The charge for the lectures, are \$5.00 for each series, except anatomy and pathology, for which there is an additional charge.

The profession from neighboring cities or towns, in both Michigan and Ontario are especially urged to attend.

For further information address Dr. C. H. Judd, Woman's Hospital, Beaubien and Forest, Detroit.

A splendid course has been made available. It should receive a large patronage.

THE BLODGETT GIFT

For the information of our members we reprint the following from the Wayne County Bulletin:

It was with feelings of profound gratitude and the utmost pleasure that the Council of the Wayne County Medical Society and the Board

of Trustees accepted the most generous offer of Dr. Wm. E. Blodgett in establishing a new Orthopedic foundation. This gift marks a distinct period in the history of the Society, the writer believes it to be epochal. It can have but one result, namely the stimulation of other generous souls in a similar generous fashion.

With characteristic modesty the donor has declined to attach his name to the gift, preferring to use the term of the Detroit Orthopedic Lecture or Detroit Orthopedic Foundation. This is a course to be generally commended, inasmuch as the association of the names of living donors with gifts of this kind, might readily become wearisome, and result in innumerable complexities.

The Wayne County Medical Society is now the happy possessor of two annual lectureships namely the Beaumont and the Detroit Orthopedic. So far as known, it is the only city of any size in the United States which is the proud possessor of so many lectureships. It is to be presumed that some worthy soul with generous instincts will be called upon by his conscience or by his goodness of heart, to build a third foundation along some other scientific lines.

This may be an appropriate point in which to stress the necessity for liberal gifts for our new library. It is not generally known, and yet the fact should receive wide circulation, that our library at present is in somewhat urgent straits. We have the nucleus of a wonderfully fine library, but we have practically reached an impasse. Practically no new books are being added to our shelves, and the only accretions are gifts from deceased members or from their families. These gifts are of necessity usually many outworn volumes, and while they have some value, yet they do not represent either up-to-date volumes nor volumes old enough to have an historical interest. The upkeep of the library is moreover in somewhat uncertain conditions and with the additional burden of building an adequate club-house for the Society the trustees will undoubtedly find the burden almost more than they can bear in the necessities arising for the support and maintenance of a library suitable to the dignity and standing of the Wayne County Medical Society. An appeal is therefore made to all the generous and able members of the Society to give the library serious consideration in their gifts, bequests and wills.

The wonderfully fine gift of Dr. Blodgett is, in the writer's estimation, susceptible of but one effect, and that is, the stimulation of others to go and do likewise.

W. M. DONALD, Pres. W. C. M. S.

COMMUNICATION

November 20, 1922.

Dr. William M. Donald,

President, The Wayne County Medical Society, Detroit, Mich.

My dear Doctor Donald:

Desiring to foster orthopedic surgery at large and in our midst, and responding to my feeling of obligation to my professional brothers, by whose confidence and support my work, the sole source of my income, is made possible, I hereby give to the Wayne County Medical Society the sum of Five Thousand Dollars, to be held in trust by the Board of Trustees as a permanent investment for the establishment of an Orthopedic Lectureship.

The lecture is to be delivered annually under the auspices of the Wayne County Medical Society, by a man, not necessarily an orthopedic surgeon, chosen by the Council of the Society as the most distinguished and fitting for the purpose. The selection is to be made at least four months in advance of the lecture. The lecturer is to choose the subject, cognate to orthopedic surgery and of broad importance.

Not less than three-fifths of the proceeds of the fund is to be paid the lecturer for his services, and the balance is to be used for the publication of the lecture in booklet form with hard covers, and for the free distribution of same, two copies to be given the Wayne County Medical Society Library, two to the lecturer, and of the balance one each to such societies, libraries and individuals as shall be selected by the Council as most appropriate, according to the number which the fund can purchase. Additional copies may be made and offered for sale at cost but without obligation to the fund. The lecture, a copy of which is always to be furnished the Society by the lecturer at the time of the lecture, is to be offered for publication to the Journal of the Michigan State Medical Society. The publication, either in booklet form or in the Journal, is not to interfere with any later use that the lecturer may desire to make of the lecture.

The lecture is to be named and known as the Detroit Orthopedic Lecture.

The Wayne County Medical Society is authorized to make at its discretion any change in the details of these provisions.

Respectfully yours,

WM. E. BLODGETT.

We congratulate Dr. Blodgett because of this splendid contribution to the profession. We are pleased to see such an exhibition of unselfishness tendered for the good of his fellow workers.

The Journal will gladly feature the addresses thus delivered and make available in suitable

form, reprints for further distribution. Are there not others who will follow and make similar contributions?

HYGEIA—A JOURNAL OF INDIVIDUAL AND COMMUNITY HEALTH

Announcement is made that Hygeia—the lay publication that will be published and issued by the American Medical Association will be issued in April.

For years the medical profession has realized the need for a periodical which will express to the public the ideals and the spirit of scientific medicine; which will inform the layman regarding progress in medical science; which will enlighten the intelligent reader as to the actual knowledge available regarding diseases and their prevention, and which will disseminate information concerning the propagation and preservation of health. To meet this need, the American Medical Association now offers this publication.

To our members the next eight issues will be sent for \$1.00. Regular subscription price will be \$3.00 per year.

Doctor, this is a publication that demands your support. It should be on the reception table of every doctor. Send in your subscription now.

WAYNE COUNTY MEMBERSHIP CAMPAIGN

The following outlines the plan and policy in the campaign conducted by the Wayne County Medical Society. We urge that other county officials give it their careful thought. We also recommend that some such plan be adopted by every county and that during the next two months an effort be made to secure every eligible physician as member of a county and the state society.

Detroit with its immediate environs was divided into 12 districts each in charge of a district chairman.

Each district chairman appointed a sub-committee of 6 members who were placed strategically throughout their respective districts.

This divided the city into approximately 90 sections each covered by a member of the committee.

The 22 Hospitals, Department of Health and College of Physicians and Surgeons were cared for by special committees of from 1 to 3 members according to the size and requirements of the institutions.

Placards bearing the words "Let's make every eligible doctor a member" and "Do your

duty"—"Get a member" were placed in the cloak rooms, clinics and entrances to the operating rooms of all the hospitals.

The 6 office buildings had separate committees of from 1 to 4 members directing the campaign among the physicians of the building.

Wayne County (exclusive of Detroit) was divided into 16 districts and a committee of one placed in charge of each district.

The names of all eligible non-members were then distributed among the district chairmen who in turn gave them to the members of their sub-committee.

The same course was followed in regard to the hospitals and office buildings.

An alphabetical list of all eligible non-members was posted in the Council room of the Wayne County Medical Society and the Society as a whole was requested to assist in the campaign.

The membership committee held weekly meetings to determine the course of the campaign.

Mass meetings of all membership workers were called at which time they were addressed by leading members of the Society.

The chairman representing the 16 districts of the county (exclusive of Detroit) were also called into consultation by the chairman of the membership committee.

Up to the present time 125 applications have been received, 90 of whom have been voted into membership.

The campaign is to be continued until every eligible physician is brought into membership.

Respectfully,

DR. J. ALBERT KIMZEY,

Chairman Membership Committee.

REPORT OF THE COMMITTEE ON NURSES

To the Council of the Wayne County Medical Society, Detroit, Michigan.

In response to your request, and to the letter of the President of the Michigan State Medical Society, that action be taken by the Committee on Nurses of the Wayne County Medical Society, in regard to the proposed inauguration of a new department of the University of Michigan for training nurses independent of the Medical School; governed by a dean and equipped with a faculty of its own, independent and distinct from the Medical Faculty of the University, your committee has met in several conferences.

Our sources of information on the proposed plan are varied. We have the statement of our State Society President published in the State Journal, to the effect that publication of the plan and of the arguments in support of the plan by the proponents of same had been refused. We assume that the question for consideration is this: "Should there be established at the University Hospital a school of nursing education, associates, instructors, executives, etc., as recommended in the report (designated the Winslow report) of the Committee on nursing

education financed by the Rockefeller Foundation?"

After a thorough perusal and discussion of the report of the Winslow Committee, your committee unreservedly indorses the statement of Dr. W. T. Dodge, President of the Michigan State Medical Society, as published in the November issue of the Journal and your committee approves the action taken by the Committee representing the State Society at a conference held at Ann Arbor, September 20, 1922, and we concur in the sentiments therein expressed—namely:

1. "That we oppose and respectfully request that no further effort be made to institute such a training school in our University.

2. That any plan suggested that alters or modifies the methods used in the University Hospital in its executive or administrative methods, or that effects the University Hospital Training School for Nurses, shall before presentation to the Board of Regents be submitted for consideration and expression of opinion to the faculty of the medical school.

3. That the University Hospital be placed under the supervision and direction of the Dean and Executive Committee of the Medical School. That the Director be obligated to report to the Dean.

4. That the University join with the State Medical Society in an effort to influence the Board of Registration of Nurses to so modify its examinations as to eliminate technical questions that should properly be propounded only to graduates in medicine."

(J. M. S. M. S., Nov., 1922.)

It is our opinion, further: That the resolution presented and adopted at the aforesaid conference, to be transmitted to the Board of Regents through President Burton, is so complete that it should be given emphasis here, i. e.:

"It is the well considered opinion of this meeting that the creation at the University of Michigan of a School of Nursing under a faculty separate from the Medical Faculty and from the administration of the Hospital would be very unwise. We are convinced that nursing is most intimately connected with the practice of medicine and that any step which tends to separate it from the practice of medicine will be harmful to the interests of the community. It cannot be doubted that the responsibility for the selection and for the work of nurses lies and must lie with physicians, who must therefore be importantly concerned with their education. The separation of the training school from the hospital and the medical staff would make such responsibility impossible and would result in chaos.

We are further of the opinion that the present very unusual arrangement at the University Hospital by which the training school for nurses is wholly under the control of the administrative officer of the hospital is unsound in theory and dangerous in practice. We believe that the training school for nurses should be directed either by the Medical Faculty or by a committee appointed by it."

(J. M. S. M. S., Nov., 1922.)

Respectfully submitted,

Committee on Nurses.

HENRY L. ULBRICH, Chairman.

JOHN NEARY,

J. W. CUNNINGHAM,

JOHN GLEASON,

F. CHADWICK.

Editorial Comments

Have handy "Nostrums and Quackery" published by the American Medical Association. Pick it up in your idle moments and read it. It is more in-

teresting and at times more amusing than any page of comics. At the same time you will be getting wise to the grafters. Along with it secure new and non-official remedies. Get wise, Doctor, to this drug game and don't be the salesman or manufacturer's dupe.

The next annual meeting of the American Medical Association will be held in San Francisco on June 25 to 29. Some delightful trips and tours are being planned for this meeting. Make your hotel reservations early.

If your Society has not taken action and forwarded its resolutions to the Regents regarding the University Hospital and Nurses Training School, do so, without fail, this month. It is important that your society goes on record.

Well, we are off on a new year. It is somewhat startling to note the rapidity that characterizes the passage of the months. It seems only a week since we collected the last five syndicates of a foursome. Now, the curlers are busy and tomorrow we will be shouting "fore." In the meantime what are you doing in the way of identifying yourself with the activities of your county society? There is profit, pleasure and sport in engaging in its programs, plans and work. This year should witness the greatest activity your local society has ever experienced. The record is dependent entirely upon whether you are going to be a booster or a passive spectator.

When a writer for a popular magazine sums up his argument in the paragraph quoted below, it is high time that members of the medical profession take heed.

"Many doctors refuse to listen to the warnings and advice of men who are in a position to know, and who really have the welfare of both the public and the doctors at heart. If the profession does not wash its own dirty linen, the disagreeable duty will have to be done by others? If the doctors insist on being fooled, some power will arise that will make it more difficult to be fooled. If they continue to follow the siren voice of the drug mongers, and use nostrums that may actually endanger lives, some method must be devised to keep such tools out of their hands. The many doctors who shoot their patients indiscriminately with these products do so out of ignorance and commercialism. After all, the only value they know to exist for the injection is the five dollars a dose that they will get on the first of the following month."

Writers, who know and who have secured authentic information, are enlightening the public. They are lifting the curtain. You, doctor, may be getting away with it for a time but ere long you will stand alone before the bar of public opinion and be found guilty. You cannot plead ignorance, for if you do, there will be an added indictment of being too lazy to find out the scientific facts. These facts are available.

The American Medical Association has published a book entitled *USEFUL DRUGS*. Here you may secure authoritative information in regard to the many drugs, preparations and vaccines that are on the market and what, if any, therapeutic value they possess. If doctors would obtain these publications and read them they will not fall for the claims of the manufacturer—unless they willfully determine to become charlatans. We repeat, as we have done many times—Ask the salesman if his preparation has been passed by the Council of Pharmacy. If not, no matter what he may say, have nothing to do with the article. The Council of Pharmacy will

be roundly abused by the salesman of valueless preparations. The greater the abuse, the less merit will his remedy possess. Doctor, for the love of heaven, stop being the easy mark and cut out "shooting" and doping your patients with valueless drugs. Get wise before you are shown up."

Atlas and map publishers locate the great American desert somewhere in the west. Observers are somewhat becoming inclined to the opinion that the great American desert is in reality located under the hat of the American public. At any rate so it seems when we review passing events. When it comes to doctors and their interest in organizational affairs and their relationship to the public we are somewhat inclined to the opinion that under the hat of many a doctor there is a vast, vacant, barren desert. Will someone please open the irrigation gates?

The wide-spread use of the radio has developed so rapidly that it is still difficult to realize all of its wonders or possibilities. The other night, while attending a county society in a sparsely settled part of the state and noting the conditions that existed we were impressed with the difficulties that surround the doctors practicing in such localities. While returning on the train we pondered upon the subject and the following thought occurred. A good radio, with a range of 500 miles can be erected for \$100. What a splendid thing it would be if some of our larger medical centers would construct a broadcasting station and then at pre-announced dates broadcast a course of talks and clinical lectures. This would enable many doctors to receive a continued course of post-graduate lectures, instruction and discussions during the winter months. Such a plan would be of wonderful assistance to these doctors who are prevented from attending medical meetings and clinical meetings in medical centers. We prophesy that such a course will be provided within a few years.

It is stated that the average woman has a stock of about 800 words in her vocabulary. Someone remarked that she gives wonderful exhibitions of frequent stock turn-overs.

Our advertisers have been loyal supporters of our publication. They will continue to be so as long as we cause them to receive a just return upon the money they thus invest with us. When that return is not forthcoming we may expect a discontinuance of this advertising revenue. When that occurs there will be but two alternatives—one, to discontinue our publication, or, to increase our dues so as to make up for the loss of advertising revenue. Our advertisers are all reputable firms or individuals. Their products are standard and represent just values. Doctor, they merit and are entitled to your patronage and preference should be given to them. All things being equal place your order with our advertisers. Do not let a smooth talking salesman of outside firms inveigle you to give him an order when you can buy just as cheap and just as well from those who support your publication. We request that you exhibit this loyalty to your patrons and thereby make it possible to continue our Journal without increased cost to you. Turn to the advertising sections and become more fully acquainted with your friends and then enter into business relations with them. We need this assistance and support from you. May we have it?

The meeting of the Ohio-Michigan Section of the American College of Surgeons that was held in Cincinnati of Dec. 8 and 9 was arranged without any

consultation or conference with the Fellows of this state. Somebody evidently gummed the machinery for many did not receive the program until the day before the meeting. This accounts for so small an attendance of Michigan surgeons. This inconsiderate action is deeply regretted and it is to be hoped that the experience will not be repeated.

The Council on Medical Education and Hospitals of the American Medical Association conducted an extensive survey of the dispensaries, out-patient departments, clinics and other medical institutions having to do with the care and treatment of ambulatory patients. This survey is now available in printed pamphlet form. Some of the figures are interesting. There are 529 tuberculosis clinics with a total of 279,476 patients and 1,082,694 visits. Michigan has 31 such clinics of which nine are located in Detroit and one in Grand Rapids. We take it that the clinics conducted by the State Department of Health are not included. Michigan is further credited with 30 general dispensaries, 25 venereal clinics, 14 Nervous and Mental clinics and 12 Federal clinics. A total of 112 public clinics. During the past year there were 119,140 patients cared for by these clinics. Just to be commercial let us say that the average medical service to each patient is \$10, the doctors of this state, without remuneration, contributed \$1,119,140 of professional services in the care of these patients. Can Compulsory Health Insurance Advocates and politicians obtain any comfort from this figure.

The Council makes the following observations upon this survey.

Some of the main facts that have been brought to light in connection with the survey are:

1. There is a steady increase in the number of patients seeking treatment in general dispensaries.
2. There has been an unprecedented increase since the war in the number of special clinics and dispensaries, such as those for tuberculosis, venereal disease, mental hygiene and child hygiene.
3. There is great need for individualized study and treatment of dispensary patients, to counteract what seems to be a prevailing tendency to routinization.
4. There is need of a closer bond between the out-patient service and the other service of hospitals, and this will be best met by having the hospital and the out-patient staffs identical and by having unified records.
5. In the matter of finances there is an increasing tendency to charge nominal fees, thereby placing part of the cost of an institution on the patient.
6. A general increase is noted in the use of social service workers to see that patients continue their treatment, and to investigate their social and financial status so as to prevent pauperizing.
7. The difficulty of securing satisfactory data is increased by the inadequacy of clinical and office record systems in a large number of institutions.
8. There is a great and increasing amount of educational work, especially the teaching of interns, medical students, graduates and pupil nurses.

We have received several inquiries regarding the representations made by a salesman who is canvassing physicians to sell stock in a proposed Physicians Indemnity Company. We are not intimately familiar with the representations made.

In general we would state—that the need for such a new company does not exist. Ample and splendid protection is furnished by our Medico-legal Committee. If additional indemnifying features are desired the Ft. Wayne Medical Protective Company provides this at a very nominal premium and acts in close co-operation with our Medico-legal Commit-

tee. We can see no prospect for large or moderate dividends for stock-holders of such a new company. The promoters stand to obtain the greatest profits and benefits.

Our recommendation would be to invest your money in good bonds. The interest will pay your premiums and you will always have at your personal command your original investment. Do not be misled by promoters luring statements. Do not pay more or send your money for benefits that are satisfactorily obtainable and call for no investment.

We have repeatedly drawn attention to the splendid protection afforded by our Medico-Legal Committee. Our records show that this committee has always provided our members with successful legal services and defense. The doctor's individual interest has never been better protected. Such protection would not be obtainable did we not have a Medico-legal Committee. No stock company can match this service. Do not become misled by statements setting forth that you are poorly protected. You cannot purchase protection equal to that which our Medico-legal Committee provides for you.

HYGEIA, is the name by which the new lay publication, to be issued by our American Medical Association, will be known. Send in your subscription now. One dollar for eight issues. Dr. V. C. Vaughan, Sr., as chairman of the Council on Public Health, will editorially supervise the first issues.

It is a sad commentary upon the integrity of our profession when insurance corporations and business firms announce that they cannot depend upon the medical statements and certificates of doctors as to the physical condition or the extent of injuries and disability given in cases in which they are concerned or responsible. They state that it has become necessary for them to employ doctors, who they can trust and depend upon, to go and make individual examinations and report upon the actual condition of the individual. This has become necessary because of the statements made by attending doctors, which magnify the condition, exaggerate the injury and unwarrantedly increase the degree of disability. It is this violation of professional integrity that discredits us as a body in the public's opinion. It is time that we recognized our responsibility.

Correspondence

The Editor of the Journal of the Michigan State Medical Society:

I am endeavoring to make a complete study of the distribution of human actinomycosis in this country. The number of cases reported in the literature is surprisingly small, and I know that the disease is not so rare as is sometimes thought. I shall greatly appreciate hearing directly from any one who has had experience with this disease, and desire to know concerning case histories the following: age, sex, occupation, residence, state in which the disease was contracted, location of lesion, duration of symptoms, and any special points of interest connected with the treatment, outcome of the disease, or necropsy findings.

A. H. SANFORD, M. D.,
Mayo Clinic, Rochester, Minn.

The Editor of the Journal of the Michigan State Medical Society:

A Dermatologic Clinic will be held at Ann Arbor for and by the American Dermatological Association on June 7, 8 and 9, 1923. It is the desire of the

Detroit Dermatological Society to present at this clinic as many rare and undiagnosed cases as possible and the request is made to all physicians having such case that they communicate with the committee as soon as convenient. This is necessary in order to make complete histories and examinations if indicated. It is hardly necessary to say that this could be of value to both the patient and physician. Provision will be made at the University Hospital for a few cases who may require such care during the clinic.

Kindly address communications to the committee.

C. C. TROXELL,
R. A. PERKINS,
R. C. JAMIESON, Chairman.

Deaths

Dr. George C. Bassett was born in Detroit in 1874. He graduated from the Detroit College of Medicine and spent a year in study in Vienna.

The death of Dr. W. S. Stevens, not a member of the Society has been reported.

State News Notes

COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

Dr. Carl Camp of Ann Arbor gave a talk on "Lethargic Encephalitis," November 20, 1922, before the Wayne County Medical Society.

As a result of the study of cases presenting themselves at the Cancer Clinic at Grace Hospital, Detroit, during Cancer Week, the Cancer Committee of the hospital has decided to continue the Cancer Clinic as a permanent department of the regular clinic, every Saturday morning at 11 o'clock.

Dr. Henry R. Carstens of Detroit has recently accepted a commission as Lieutenant-Colonel in the Officers' Reserve Corps.

Dr. Dale M. King of Detroit was recently appointed Neurologist to the Michigan Central railroad.

Dr. Max Ballin was recently appointed a member of the Detroit Welfare Commission. He succeeds Dr. Wadsworth Warren who died Oct. 22, 1922.

John D. Rockefeller, Jr., has purchased the block bounded by Avenue A, 63rd St., 64th St., and East River at a price of about \$1,000,000. It is understood that this land will eventually be used for additional buildings of the Rockefeller Institute for Medical Research which occupies the three adjoining blocks.

Dr. Russell D. Carman of the Mayo Clinic read a paper (illustrated with lantern slides) on "The Roentgenological Signs of Colonic Cancer" and Dr. A. J. Ochsner of Chicago, on "The Surgery of Cancer of the Colon," before a joint meeting of the Radiological Society of North America and the Wayne County Medical Society, December 5, 1922.

A delegation of seven from the Faculty of the University of Strassbourg arrived in New York

Sept. 30, 1922, as guests of the Rockefeller Foundation for the purpose of studying the organization and methods of American Medical Schools. After a brief stay in New York the commission will visit Johns Hopkins University, Harvard University, University of Pennsylvania, University of Michigan and Washington University, St. Louis.

The new director of the Illinois Department of Registration and Education, A. M. Shelton, asked for and received the resignation of the members of the 14 boards under the jurisdiction of this department. The following physicians have been appointed on the professorial committee: Doctors M. L. Harris, G. Fitzpatrick (reappointment), and A. H. Geiger of Chicago, Doctor L. C. Taylor (reappointment) of Springfield and Doctor W. H. Gilmore of Benton.

The Ohio and Michigan Sections of the American College of Surgeons met in Cincinnati, Dec. 8, 9, 1922. The Michigan Executive Committee was Dr. F. C. Warnshuis of Grand Rapids, chairman. Dr. R. C. Stone of Battle Creek, Secretary; Dr. W. R. Parker of Detroit, Counselor; Dr. J. G. R. Manwaring of Flint, Counselor, and Dr. C. E. Boys of Kalamazoo, Counselor. Dr. W. R. Parker of Detroit was chairman of the Scientific Meeting, held December 9, 1922.

The Seventh Annual Clinical Session of the American Congress on Internal Medicine will be held in Philadelphia, April 2-6, 1923.

The Butterworth Hospital staff of Grand Rapids, conducts a monthly clinical conference on the first Friday of each month. The doctors of Western Michigan are invited and urged to attend these conferences. The morning is devoted to surgery, the afternoon to the exhibition and discussion of clinical cases and the problems of diagnosis. A dinner is tendered to the doctors and one or two papers are presented after dinner. Last month Dr. J. S. Pritchard of Battle Creek gave a splendid talk on "Non-Tuberculous Lesions of the Lung." Judge C. L. Higbee gave a most interesting talk on the "Relationship of Doctors to the Probate Court." Dr. you are welcome to these meetings. If you desire to receive a program and notice before each meeting drop a card to the superintendent requesting him to put your name on the mailing list.

Have you paid your 1923 dues? Now is the time to send in your check to your local secretary.

The Detroit X-ray and Radium Society met Nov. 22, 1922. Dr. W. A. Evans talked about the recent meeting of the American Roentgen Ray Society held in Los Angeles. Each member then presented two cases which had come up in his practice in the past month.

Dr. J. M. Robb has returned to Detroit after spending a number of months in Europe.

The Academy of Surgery of Detroit met at Grace Hospital, Nov. 24, 1922. Doctors H. K. Shawan, G. P. Meyers, H. W. Hewitt, Charles Kennedy, R. J. Palmer and D. A. Darling took part in the meeting.

The Detroit Pediatric Society held a clinical meeting at the Children's Free Hospital, Nov. 23, 1922. Doctors G. E. White, W. C. Colc, M. B. Kay and E. R. Witwer presented cases.

Dr. W. R. Chittick left Detroit Dec. 2, 1922 to spend the winter in California.

Dr. Hugh Cabot of Ann Arbor spoke on "The Management of Small Calculi in Kidney and Ureter" at a meeting and banquet, given by the Medical

Staff of the Geneva City Hospital, N. Y., November 9, 1922.

Dr. B. R. Shurly of Detroit was appointed, Nov. 1922, Colonel in the Medical Reserve Corps of the United States army.

There was a very large attendance at "The Feather Party," given by the entertainment committee of the Wayne County Medical Society, Nov. 27, 1922.

Dr. A. D. LaFerte read a paper on "The Management of the More Common Fractures," (illustrated with lantern slides), before the Detroit Academy of Medicine, Nov. 28, 1922.

We are glad to announce that Dr. Henry R. Varney of Detroit has resumed his practice, after an illness of a number of months.

Dr. C. B. Lundy was recently elected President of the Detroit Amateur Athletic Association.

The engagement of Dr. H. W. Plaggemeyer of Detroit to Miss Edith Greer of London, Ontario, was recently announced.

Miss Dorothy F. Wilson, daughter of Dr. and Mrs. Walter J. Wilson of Detroit, was married, Dec. 2, 1922, to Mr. Kenneth Draper of Detroit.

Dr. Harold Henderson of Detroit gave an address on "The Diagnosis and Treatment of Sterility in Women," before the Detroit East Side Physicians' Association, Nov. 16, 1922.

Dr. Guy L. Kiefer of Detroit talked on "The Acute Exanthemata," before the Detroit West Side Physicians' Association, Nov. 9, 1922.

At the regular meeting of the Council of the Wayne County Medical Society, held November 20, 1922, Dr. Eugene Smith, Sr., was made a Honorary Member of the Society.

Dr. Alvin Thompson of Chicago has recently moved to Flint and become affiliated with the Genesee County Medical Society. He is limiting his practice to Urology. He is a member of the Chicago Urological and American Urological Societies and was associated with Dr. R. H. Herbert while in Chicago.

Dr. Gordon Bahlman of Flint left on Dec. 9 on the "Homeric" for England. He will spend the winter months in the eye, ear, nose and throat clinics at Vienna.

Dr. Irving E. Sanders, whose certificate of registration was revoked by the Medical Board in 1910, was convicted in the Recorder's Court, Detroit, Aug. 16th last, for practicing medicine without a license. The case was appealed to the Supreme Court on the ground that the section of the Medical Act giving the board authority to cancel or revoke licenses was unconstitutional and that the methods of the board in the Sanders cancellation case were irregular. The Court upheld the conviction and the defendant was returned to the Detroit House of Correction, on Nov. 14, to serve the sentence of five months without the option of a fine.

A fortune-teller was recently arrested in Detroit, charged with practicing medicine without being registered and committed to the Recorder's Court for trial. She was charged with prescribing fetish-

ism and like remedies to a patient, claiming to have an ailment or a disease.

Citizens of Chalevoix County exceed the Barnum Speed Limit in its relation to births.

DeJordy, a chiropractor of Boyne City, tried recently upon the charge of practicing medicine without a license, was acquitted by the jury notwithstanding Judge Mayne directed a verdict of guilty as charged. The judge, in discharging the prisoner, stated that the jury had disregarded the evidence of the people (which had not been questioned by the defense) and the Court's directions. He warned the defendant that if he continued to violate the Medical Act, he would be vigorously prosecuted and if convicted, given the extreme sentence provided in law.

F. J. Little, a chiropractor residing at Alpena, Mich., was convicted recently in the Circuit Court, of practicing without having a certificate of registration on file with the county clerk. He, as is usual in this class of cases, threatens to carry an appeal to the Supreme Court. The only possible object for his appealing the case is from the fact that he thinks such a procedure gives him the right to practice in the interim of his conviction and the Supreme Court decision, which practice is, of course, illegal. The Michigan Supreme Court has already passed upon all phases of the Medical Act in its relation to chiropractors and other "isms."

Dr. D. Emmett Welsh, Grand Rapids, is planning to spend February and March in the West Indies.

The Joint Committee on Public Health Education will meet with the Council, at the January Session in Ann Arbor.

The Legislation Committee held a meeting in Lansing on December 8.

Dr. A. M. Hume of Owosso boasts of a new avocation—that of farmer. He took first prize at the Apple Show, on his farm exhibits.

We desire to correct a mistatement in our last issue. Dr. E. L. Eggelstone of Battle Creek states he attended a "prayer meeting" and not a "prize fight" at Grand Rapids. We are truly apologetic for the typographical error.

Dr. C. C. Slemons, Health Officer of Grand Rapids, is planning a goitre survey of the public school pupils of that city.

Dr. R. J. Hutchinson of Grand Rapids was elected president of the Kent County Medical Society at the annual meeting held in December.

County Society News

GENESEE COUNTY

The Genesee County Medical Society meets every other Wednesday for noon luncheon. Three meetings were held for November. On Nov. 1st Dr. W. Blodgett of Detroit addressed the society on "Backache." The work of cancer week was taken up and a speakers' committee appointed. The letter from Dr. Dodge concerning "The Separate School for Nurses" was read before the society and President Chapell appointed Dr. Manwaring chairman of a committee to draft resolutions concerning the stand taken by our society.

On Nov. 15, the local society went to St. Johns to attend the annual meeting of the 6th District. Papers were read by Drs. Abbott and Hugh Cabot of Ann Arbor.

Drs. Paul Woolley and N. M. Allen of Detroit addressed the society on Nov. 29. Dr. Woolley spoke upon "The Clinical Laboratory" and Dr. Allen talked on "Pyloric Stenosis in Infants." A very interesting discussion followed.

MAX BURNELL, Secretary.

MENOMINEE COUNTY

On October 15 the Menominee County Medical Society entertained some 100 upper peninsula medical men at the New Menominee County Sanitarium at Powers. The program was as follows:

"Some Clinical Aspects of Heart Disease," Dr. R. H. Towhy, Duluth, Minn.

"Diseases of the Bladder," Dr. Hugh Cabot, Ann Arbor, Mich.

"New Tendencies in the Treatment of Diabetes," Dr. Louis Newberg, Ann Arbor, Mich.

After the program a chicken supper was served followed by a round of after dinner speeches.

Dr. and Mrs. A. W. Erickson who came to Menominee on July 1 from Ironwood are rejoicing in the birth of their first son, Robert Waldemar.

Dr. R. A. Walker, who has practiced continuously in Menominee for the last twenty-six years, left on Nov. 3 for his new home in Lansing, where he will continue the practice of medicine. He has taken over the office and practice of Dr. A. H. Wilson in the Jennison building. Dr. Walker is a past president of the Menominee County and the Upper Peninsula Medical Societies. The best wishes of the profession go with him. His office in Menominee has been taken over by Dr. J. T. Kaye.

J. T. KAYE, Secretary.

INGHAM COUNTY

The twenty-first annual meeting of the Ingham County Medical Society was held Thursday evening, Nov. 23 at the Elks home.

The following was the order of business: General discussion, report of committees, petitions for membership, annual report of secretary-treasurer, election of officers.

It was moved by Dr. Haze that the president appoint a committee from the Society to co-operate with Health Center officials to discuss ways and means of transferring the City Clinic to the Sparrow Hospital. Carried.

It was moved and seconded that a committee be appointed by the president to design and submit a suitable emblem for automobiles, this emblem to be issued to the members of the society by the secretary and that Dr. Toles should be chairman of that committee. Carried.

The following physicians were elected to membership: Dr. Max Wershow, Lansing; Dr. Alexander Borland, East Lansing; Dr. Robert Walker, Dr. H. B. Weinburgh, Dr. S. H. Watley, Lansing.

The following were then elected officers for the ensuing year: President, Dr. Arthur E. Owen; Vice President, Dr. J. Earl McIntyre; Secretary-treasurer, Howard C. Rockwell.

Resolutions were then drawn up and passed, unanimously, that this society go on record as greatly and seriously opposed to the adoption of or the putting into practice of the suggestions and recommendations, relative to the training of nurses of the Director of the University Hospital as made to the Board of Regents. Copies of these resolutions were mailed to each member of the Board of Regents, the Dean of the Medical School and to the Secretary of the Michigan State Medical Society.

After the business meeting the doctors and their wives were ushered into the Elks banquet room and at 7 o'clock sat down to a very elaborately appointed turkey dinner. One hundred and twenty-five were

seated at the tables which were very prettily decorated with potted plants and baskets of cut flowers. The Lansing High School orchestra played as the guests were being seated. During the serving of the courses the Lansing quintet sung several numbers which were heartily encored.

Dr. Holm, our retiring president, acting as toastmaster, asked the newly elected officers to rise, and introduce themselves and wives. Dr. Holmes then delivered his address.

Dr. Holm then called upon Dr. Harry Bartholomew who chose as his subject "Vital Success." He classified in a very able and austere way the noble attainments which we should all endeavor to pursue if we wished to be successful. His thesis was ably illustrated by personal observations on his own life.

Dr. B. M. Davey and Dr. F. J. Drolett gave short impromptu remarks.

The principal speaker of the evening was then introduced, Prosecuting Attorney Elect Barnard Pierce, who chose as his subject, "The Regulation of the Practice of Medicine in the State of Michigan." Mr. Pierce was an able speaker and assured those present that he would do all in his power to prosecute those who persisted in the illegitimate practice of medicine.

H. C. ROCKWELL, Secretary.

GRATIOT-ISABELLA-CLARE COUNTY

For our October meeting we had Dr. R. L. Novy of Detroit, who gave a very interesting clinic on heart cases.

For our November meeting we had Dr. Udo J. Wile of the University Medical School, who conducted a clinic on cutaneous diseases.

For our December meeting we had Dr. Hugh Cabot, Dean of the University Medical School, who gave his lecture, "Germs and Their Relation to Human Life," to the public in the Alma High school. We were a little disappointed in the attendance, but those whom we talked to enjoyed the lecture very much.

At 5 o'clock we had our annual business meeting in the Wright house in Alma. The following resolution was adopted:

That the establishment of a separate department in the University Hospital for Nurses training is disapproved. Second we request that the conduct of the University Hospital and the Nurses Training School, shall be again in charge of the faculty of the Medical school, where it has always been until changed by the exigencies of the late war.

The following were elected officers for 1923: President, M. F. Brondstetter, Mt. Pleasant; Vice President, Charles F. DuBois, Alma; Secretary, E. M. Highfield, Riverdale.

At 7:30 in the Wright House we had our annual banquet for the doctors and their wives. Thirty-three partook of the good things after which we had a short musical program. The ladies then went to the movie, while the M. D.'s listened to a fine lecture by Dr. Hugh Cabot entitled "The Natural History of Cystitis With Particular Reference to So-called Catheter Cystitis." Dr. Cabot's scholarly and exact ways are too well known for me to need to dilate on them here.

With the complements of the season to you, we are

E. M. HIGHFIELD, Secretary.

Book Reviews

THE PROPAGANDA FOR REFORM IN PROPRIETARY MEDICINES, Vol. 2, 1922. Containing Reports

of the Council on Pharmacy and Chemistry and contributions from the A. M. A. Chemical Laboratory and from The Journal of the American Medical Association. Cloth. Price \$2.00. Pp. 603 with illustrations. Chicago: American Medical Association, 1922.

The present book is the second volume of the "Propaganda for Reform in Proprietary Medicines." The first volume ran through nine editions. The ninth edition contained (1) the most important reports of the Council on Pharmacy and Chemistry, (2) the reports of the A. M. A. Chemical Laboratory, and (3) those articles from The Journal of the American Medical Association which deal with the problems of proprietaryship in medicine and the furtherance of rational drug thereby. All of this material covered a period prior to 1917.

The present (second) volume contains similar material covering the period from January, 1917, to April, 1922, inclusive. Like Volume 1, this volume is divided into four parts:

Reports of the Council on Pharmacy and Chemistry—This section present the principles and rules which govern the Council in the examination of medicaments, contains articles and reports bearing on the work of the Council as well as the most important reports of the Council from 1917 to April, 1922, inclusive.

Reports of the A. M. A. Chemical Laboratory—This, besides presenting the aims and objects of the Association's Chemical Laboratory, also outlines some of the Laboratory's work which is of special interest to physicians.

Contributions from The Journal—Proprietary Products—This contains articles which have appeared in The Journal A. M. A. on proprietary preparations and their methods of exploitation.

Contributions from The Journal—Miscellany—In this section are articles dealing with matters of interest to the medical profession but not coming strictly under the classification of proprietary medicinal preparations.

A comparison of the material that has appeared in Volume 1 of the Propaganda for Reform with that which appears in this Volume will reveal the changing conditions in the proprietary medicine field. Many of the reports in the first volume brought out the fact that medicinal preparations were at that time foisted on the profession with false claims of composition; reports of this character are less conspicuous in the present volume. Many of the reports in Volume 2 deal with unwarranted therapeutic claims, especially those advanced for animal organ preparations, serums, vaccines, preparations for intravenous medication, etc. The present volume will also be found of interest in its portrayal of the changed conditions in proprietary medicines brought about by the World War.

The index in this new volume is, in effect, a bibliography, including reference not only to articles in the book but also (a) to articles which appeared in Volume 1; (b) to articles on the same general subject in The Journal of the American Medical Association, and (c) to articles appearing in the annual reports of the Council on Pharmacy and Chemistry and of the A. M. A. Chemical Laboratory, but not printed in either volume of the Propaganda for reform in Proprietary Medicines.

This book is not only valuable for the information, but it is also interesting. It shows up the technique of the artist in the sale of proprietary medicines, tells of his skilful word-pictures that are sent to the physician as "literature." It makes clear the work of the Council of Pharmacy and Chemistry, the A. M. A. Chemical Laboratory and The Journal of the American Medical Association in their several capacities as servants to the medical profession and as champions of rational medicine. The book should be in every physician's library; and more than that, should be within reach for convenient reference.



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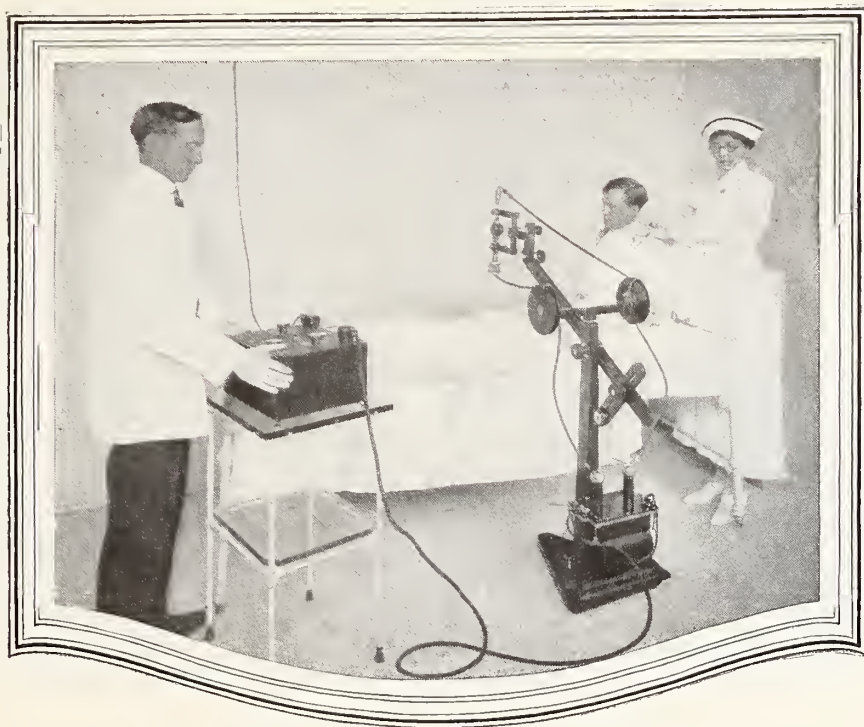
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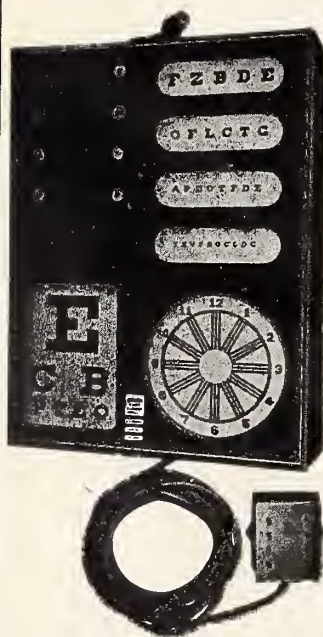
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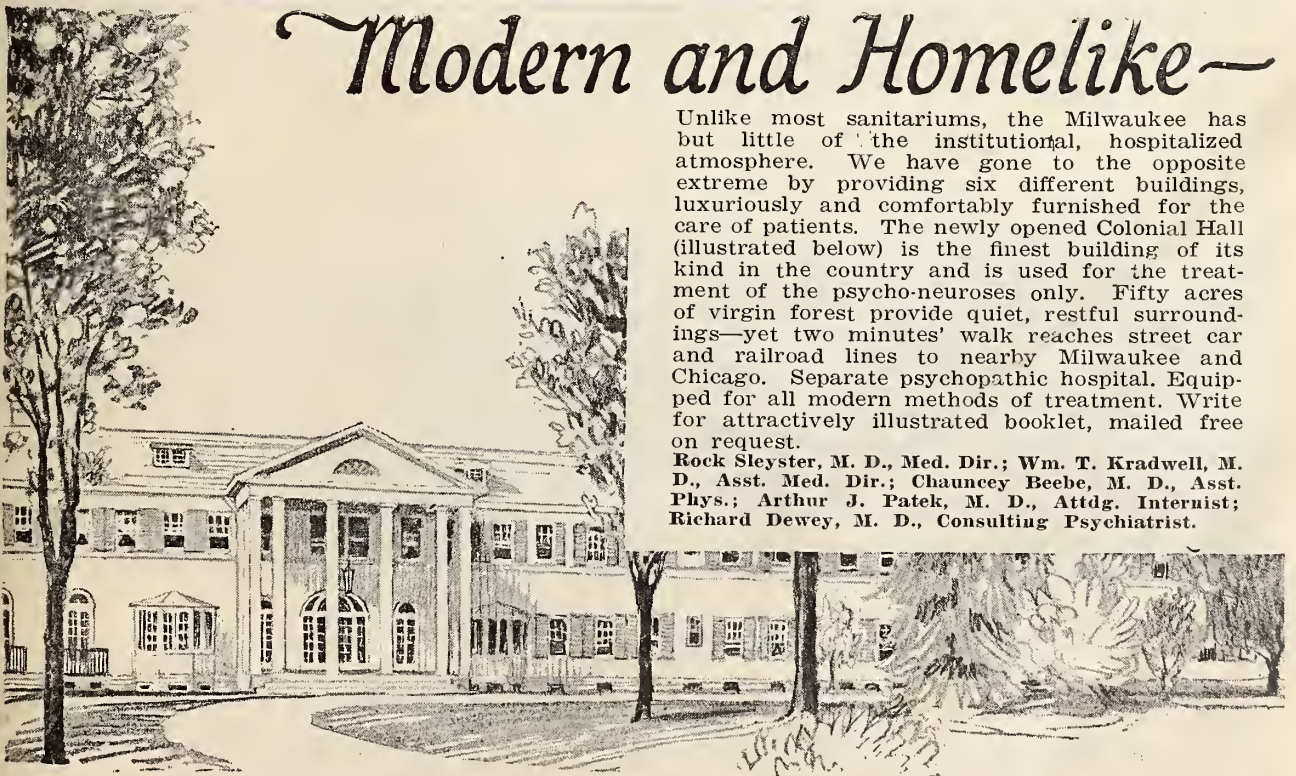
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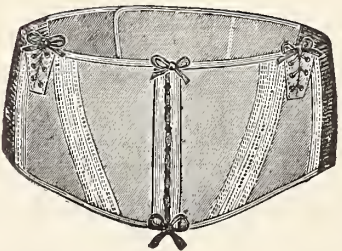
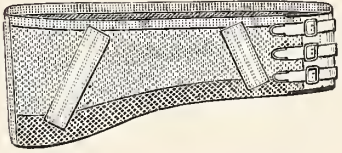
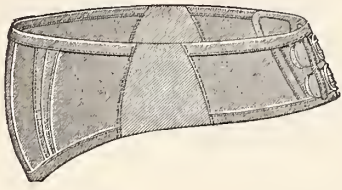
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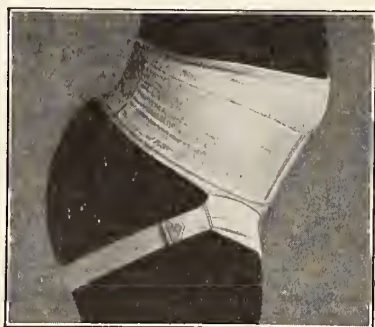
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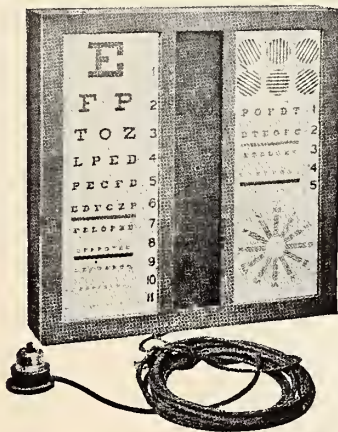
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Vol. XXII

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No. 2

Original Articles

INDICATIONS FOR USE OF THERAPEUTIC PNEUMOTHORAX*

HERBERT M. RICH, M. D.
DETROIT, MICH.

Therapeutic Pneumothorax has established itself firmly as a valuable resource in pulmonary disease. Advocated for many years as useful, it was finally made less dangerous and more practical by Saugman of Copenhagen, who added the manometer to a simple water-pressure apparatus. The incision advocated by Brauer has been discarded as unnecessary. So in uncomplicated cases the procedure is now short, safe, painless and often life-saving. Its results are so satisfactory in successful cases that the indications for its use should be well understood by the profession at large.

Its greatest usefulness, so far as the aggregate number of cases is concerned, is in pulmonary tuberculosis. The classical indication here is severe phthisis of one lung with the other lung free from signs of advanced disease. These cases represent a distinct group by no means small. They are usually cases developing from the hilus and not the purely apical type which is only too often strictly bilateral from the first. The extent of the disease in the affected lung of the unilateral case does not stand in the way of a successful result from compression, except as pleural adhesions may prevent the collapse. Cavities, caseation, hemorrhagic ulcerations all heal with time in cases where sufficient collapse can be maintained.

The real question is often the "good" lung. It seems never entirely free from disease. And herein lies much of the skill in management of pneumothorax as a therapeutic measure. With the diseased lung entirely collapsed the entire work of respiration falls on the good lung. Care must be taken not to throw too much suddenly on this lung, but rather to gradually increase the amount of work it is to

do and thus allow it to accommodate itself to the increased load. Cyanosis is ordinarily a sign of overloading of the good lung and compression of the bad lung should not be increased when cyanosis is present.

We depend very largely, of course, upon the X-Ray in addition to our stethoscopic examination to decide upon the exact condition of the good lung. When disease here is confined to the hilus and peribronchial lesions, we would have no hesitation about compressing the other lung. Even healed parenchymal lesions may be disregarded.

In apical phthisis it has been maintained that therapeutic pneumothorax should be resorted to as soon as an ulcerative process develops, for two main reasons: first, because the other lung so commonly shows disease earlier than in the hilus type; and second, because the increase of adhesions in the apical type more frequently prevents perfect compression, if allowed to continue too long.

It should be said here, also, that even in cases which seem most unpromising, remarkable results not infrequently occur. Thus with a cavity in one lung, the patient may suffer greatly from the presence of much toxic material in the lung. Even in the presence of fairly active disease in the better lung, one may here get great improvement and undoubted prolongation of life by collapsing the cavity, squeezing the toxic material out of the neighboring tissues and putting the diseased portion of the lung at rest.

We have had the experience several times of having the good lung develop serious signs of disease a year or more after we had ceased compression of the other side. In three such cases I have successfully compressed the second lung, thus throwing the burden of carrying the respiration of the body on a lung previously badly diseased and itself collapsed for therapeutic purposes. Two of these cases are still under treatment with the healed lung showing no signs of breaking down. One of these has already been compressed a year, and this patient weighs more now than ever before in her life. In the third case, the second lung

*Read at meeting M. S. M. S., Flint, 1922.

was allowed to expand, about one year ago, and both lungs have been functioning perfectly ever since. How soon they will break down again is, of course, a question but, in any event, this patient has been given some years of useful and happy life.

HEMOPTYSIS

Severe recurrent hemorrhages from the lung or persistent slight bleeding resisting ordinary treatment, present a definite indication for collapse of the bleeding lung. The indications here being more urgent, one usually gives a larger quantity of gas at the first sitting, producing a fairly rapid collapse. In 1917 we admitted a young man who had had nineteen hemorrhages in the preceding three weeks. He was exsanguinated on admission with a high septic temperature. His death seemed imminent. He was given 1500 cc. of gas in two days, and had no bleeding after the second day. Fortunately, the other lung was good and he made a rapid recovery. At the end of three months he had gained twenty-five pounds and felt so well that he insisted on leaving the sanatorium although against our advice.

CONTRAINDICATIONS

Advanced bilateral disease is rarely benefited. Marked emphysema such as is often found in old tuberculous asthmatics is a contraindication for therapeutic pneumothorax. It rarely does any good and may hasten death. In the presence of diabetes and advanced nephritis, the procedure is not to be recommended. On the other hand, I have successfully compressed two cases complicated by valvular disease of the heart and have had no cause to regret it.

Possibly here I may also mention the fact that two of my patients, each with one lung compressed, have successfully taken a gas-oxygen anaesthetic for appendectomy with no bad results.

In concluding these remarks on the use of pneumothorax in phthisis, I wish to say that while many cases presenting themselves are unsuitable for this treatment, it is undoubtedly true, as stated by Riviere, that most cases of advancing pulmonary tuberculosis do pass through a stage where this procedure would be of great benefit, if not actually life-saving. The watchful physician, of course, will see that his patient does not pass this stage without being given the benefit of a trial.

PULMONARY ABSCESS

In another paper I have written at length of the use of pneumothorax in certain cases of lung abscess. Briefly stated lung abscess in a lower lobe and near the hilus, should be compressed unless there is some contra-indication

such as disease in the other lung, etc. Abscesses near the periphery of the lung should be surgically drained. Pneumothorax, therefore, does not supplant surgery but supplements it since the abscesses at the hilus which form the greatest surgical risks, present the cases giving most favorable results from compression.

BRONCHIECTASIS

Theoretically, pneumothorax is the ideal treatment for bronchiectasis except for one fact. Ordinarily there are such dense adhesions around a bronchiectatic cavity that anything like a satisfactory collapse is impossible. However, in a few instances I have succeeded in greatly improving the condition of unhappy victims of this disease by this procedure and I believe the time is not far distant when the surgeons will dissect these adhesions so as to free the lung and allow us to successfully collapse such a diseased lunge, thus greatly improving the condition of these patients and prolonging their lives.

THE TREATMENT OF MILD DIABETES MELLITUS*

PHIL L. MARSH, M. D.
ANN ARBOR, MICH.

The patients with the more severe grades of diabetes mellitus usually find their way sooner or later to the specialist or to a hospital for treatment. The type of subject who has been selected for this discussion is the mild diabetic, usually elderly and often obese, whose symptoms are insignificant in comparison to the burden of dieting, or in whom the only manifestation of the disease is a glycosuria discovered in the course of life insurance or other routine examination. This group of patients usually is and by right ought to be treated by the family physician.

Such a patient invariably asks: "Why should I go to all this trouble about my food when I feel so well?" Too often the physician feels the same way about it, that the treatment of a patient with a very mild diabetes is a waste of energy for everybody concerned; or else his conviction is so feeble that he is unable to persuade the patient of the importance of keeping his urine sugar-free, and the latter becomes an untreated, or intermittently treated diabetic. To convince the patient his medical advisor must have a strong body of argument against this *laissez faire* attitude.

It is a matter of common observance that the untreated diabetic tends to lose carbohydrate tolerance. A long period of constant glycosuria is likely to transfer him into one of the more

*From the Department of Internal Medicine, Medical School, University of Michigan.

severe groups. Life insurance statistics show that subjects with an accidentally discovered glycosuria are much poorer risks than normal subjects; this is convincing evidence that the most moderate cases can not be considered entirely benign. From the history of patients with diabetes of long duration without treatment, it is often apparent that they must have been much more readily controlled at the onset than they are when they finally come for treatment. The loss of carbohydrate tolerance that is associated with hyperglycemia is the first argument which makes us insist on the treatment of even the mildest diabetics.

The second argument is found in the frequency and nature of the complications that are so common in the mild, elderly diabetic. These are of wide variety, including many of an infective nature due to the lowered resistance of the diabetic tissues to parasitic invasion and multiplication, and a large group of diversified lesions of less easily interpreted causation—notably cataracts, arteriosclerosis, gangrene, myocarditis, chronic nephritis, apoplexy and neuritis. That these complications are frequent is shown by the fact that of the last one hundred diabetics treated at the University Hospital in whom the onset was after the age of forty, sixty-eight had important complications. No case was included in these sixty-eight in whom the complication was not either dangerous or incapacitating. These patients had been mild diabetics quite undisturbed by their symptoms and came to us because of the complications. Where as they would have been easy to treat at the first discovery of the glycosuria, their cases became difficult to manage because of the superimposed pathology.

There are several reasons why these complications are important and to be avoided. Many of them, especially the infections and perhaps arteriosclerosis, further damage the pancreas and cause a progressive increase in the severity of the diabetes. Most of the more serious complications are incapacitating. Important economic loss to the patient, his family and the community results from the blindness due to cataracts and neuroretinitis, from the restriction of activity due to gangrene or osteomyelitis of the feet, from invalidism due to cardiac failure or Bright's disease. To the mental suffering that the patient must endure because of his enforced vacation are added in many cases actual pain and physical discomfort. Even so benign a complication as pruritis vulvæ may cause the patient most intense distress. Even more important, however, than the slow loss of tolerance, the incapacity and the suffering is the fact that these complications are frequently fatal. Less than fifty percent of all

diabetics die in coma and coma is almost entirely limited to the younger group. The elderly diabetic almost always dies of a complication. In the untreated or the improperly treated patient, this usually occurs in the first decade of the disease; his expectancy of life is cut to a half or a third of that of the non-diabetic subject. Twenty-two of the hundred diabetics mentioned above in whom the onset occurred after the age of forty are dead. Of these, six died of infections, five of diseases of the renal and cardio-vascular systems, three of gangrene, three in coma, three of miscellaneous causes and two of unknown causes. Practically all of these deaths were due to complications of the diabetes rather than to the diabetes itself. The prevention of these complications by the efficient management of the diabetes is much more satisfactory than any treatment that we have to offer after they have developed, and success in keeping the elderly, mild diabetic alive depends largely on our success in keeping him free of these complications.

Not only is the diabetic state commonly neglected during the period before complications appear, but it is also too frequently the case that attempts are made to treat the complication without first controlling the glycosuria. In particular the treatment of infections and surgical therapy of any kind are likely to fail in the presence of hyperglycemia, and disaster is the rule rather than the exception.

For the prevention of downward progress of the diabetes, for the prophylaxis of complications and as an important element in the treatment of existing complications, rigid treatment of the diabetes is indicated. This may be discussed under three heads: diet, personal hygiene and instruction of the patient.

DIET

In the type of patient under discussion the diet offers few difficulties. Its first requisite is that it keep the urine free of sugar and the blood sugar at approximately normal level. Often this can be accomplished by very moderate curtailment of all the food stuffs. In other cases some reduction of carbohydrate and even of protein together with limitation of the total caloric intake may be required. For the group with a slightly more severe diabetes we have found a diet containing protein 55 grams, fat 220 grams, carbohydrate 35 grams and 2300 calories to be very satisfactory. Absolute freedom from urinary sugar must be insisted upon; it is an injustice to the patient to assure him that he is doing well because there is only a trace of sugar in his urine.

While it is desirable to feed a maintenance diet on which the patient can carry on his ordinary activities of life, overfeeding is carefully

to be avoided. The days are past when we measured our success in the treatment of a case of diabetes mellitus in terms of the number of pounds of weight that subject gained. We now realize that the condition of the lean diabetic is better than that of the obese one and that gains in weight are likely to be associated with loss of tolerance. For this reason the obese should be reduced to the standard for his height, age and sex, and the lean should be maintained at that level. This can be accomplished without difficulty by experimental adjustment of the diet and exercise, with biweekly weight records.

Death from coma is rare in the mild, elderly diabetic, and his allowance of carbohydrate may always be sufficient to make fear of acidosis unnecessary. It should be pointed out, however, that in this group fasting is especially dangerous. For example, a woman, 62 years of age, whose diabetes had been so mild during its three years of duration that she had not consulted a physician, came to us after two weeks of alternating complete and partial starvation, in extremis. She vomited everything that was given her and her exhaustion was extreme; in spite of all we could do she died four days later without coma. Avoiding the controversy as to whether the starvation is ever indicated in the treatment of diabetes, we are safe in insisting that it is neither necessary or desirable in the elderly, mild diabetic.

PERSONAL HYGIENE

While in the treatment of diabetes mellitus we are primarily interested in diet, we must not forget that the manner in which the patient lives is also important. It may be accepted as a general rule that the measures that promote the health of a normal individual will improve the condition of a diabetic. It is especially important for the latter to consciously follow the laws of personal hygiene; illnesses that only temporarily disturb the healthy man may aggravate and increase the severity of diabetes, and may, because of the lower resistance of the diabetic patient, be serious or dangerous in themselves. This does not imply that the diabetic patient is to consider himself an invalid. The less he thinks about his disease outside of meal time, the better off he is. But just as many thoughtful, healthy people try to assure themselves of continued good health by careful regulation of their lives, so may the diabetic without constant thought of his diabetes so control his daily routine that his whole condition is improved. A few of the questions that the patients most frequently ask will be discussed.

Except under exceptional conditions exercise is to be encouraged. Each patient should so

plan his affairs that he walks several miles a day in the open air. A small garden is very desirable not only for the exercise it requires but also for the variety of vegetables that it provides. On the other hand exhaustion is to be avoided. A moderate degree of fatigue which insures a night of sound sleep is beneficial but exertion beyond the capacity of the individual is harmful.

Severe mental strain is to be avoided. Considerable discipline may be required to attain that philosophical calm which permits the maintenance of an even emotional level, but it can be attained and is worth the effort. A change in occupation may be entailed and the patient must avoid adventures that he expects to result in unusual emotional or mental strain.

The patients should be assured of a sufficient amount of rest. Ten hours in bed every night is the least he should allow himself. He must be absolutely regular in his habits of retiring and arising and should allow nothing to interfere with them. It is usually desirable for him to add an hour's nap, or at least rest in a reclining position, every afternoon. Frequent and extended vacations, especially into the woods on hunting and fishing trips are to be encouraged. Such intervals carry the benefits not only of out-of-door exercise but also of complete irresponsibility and mental rest.

We are frequently asked whether or not a patient should give up his work. From what has preceded, it will be seen that no general answer can be given to this question. If the patient's occupation is one that requires of him unusual mental or physical exertion, he would do well to change to one less exacting and exhausting. In the one case the mental strain may aggravate his diabetes, in the other his allowance of food may be too small to supply enough fuel for high power and great speed. On the other hand idleness in one accustomed to work or economically responsible for a family is to be avoided. Cessation of work is accompanied by worry, restlessness and lack of motive in living that are damaging. Ordinarily we advise work in moderation.

The most damaging accident that a diabetic can meet is an infection. Not only does this apply to the ordinary specific infectious fevers and "contagious diseases" such as scarlet fever, pneumonia, mumps, etc., but also to such trivial infections as abscessed teeth, sore throats and common "colds." At the time of the infection, sugar often appears in the urine; we have seen this happen with a dental abscess or a mild attack of tonsillitis. After such an infection the painful discovery is often made that the tolerance is decreased, and the diet which caused no glycosuria before produces several

grams daily in the urine. Moreover diabetic patients have a lowered resistance to such diseases and not infrequently die from them when a normal person would be expected to survive. For these reasons the patient must avoid infection as far as possible, and if infected obtain early and effective treatment.

The absolute avoidance of infection is impossible as long as one remains in contact with his fellow men. A few precautions will, however, greatly lessen the dangers. During epidemics, the patient must avoid public places and vehicles where large numbers of people congregate. If a member of his family is suffering from an infectious disease he should make his isolation as complete as possible. So-called common "colds" are infectious and are transmitted from one to another no less than are scarlet fever and tuberculosis; the diabetic must regard the victims of these colds as menaces to his well-being. Exercise in the open air with thorough ventilation of his respiratory tract will help keep him immune if he is unavoidably or unwittingly exposed. He should, of course, sleep alone in a well ventilated room. Organs with chronic infections that are likely to exacerbations should be removed; this applies to teeth and tonsils in particular, and there are a number of other chronic infections that are amenable to surgical or medical treatment.

If, in spite of all care, infections occur, prompt and efficient treatment should be started at once. His physician should be consulted without delay. Early drainage of an infected middle ear, of a boil or of an infected toe may save serious and even fatal complications. An abscessed tooth should be removed as early as possible. Diabetic patients who insisted on staying up and "fighting" influenza have in our experience waged a losing battle. Inter-current infection demands very prompt attention from the diabetic.

A number of miscellaneous items should be mentioned. In order to prevent the unnecessary combustion of fuel the clothing should be sufficient to keep the patient warm. Since excessive urination is a symptom of diabetes it is sometimes thought desirable to limit the fluid intake. This symptom is best controlled by diet and the fluid restriction adds unnecessarily to the discomfort of the patient. He should be instructed that beverages without food value may be taken as desired; included in these are water, coffee, tea and bouillon from beef cubes. On the other hand beverages containing sugar or starch must be avoided. Patients do not realize unless told the high carbohydrate content of soft drinks—gingerale, "pop", near beer, seltzer, etc. For the same reason paraffin or spruce gum should be substituted for

ordinary chewing gum and chewing tobacco should not contain sugar.

Since alcohol has been used very extensively in the treatment of diabetes, it requires special mention. Investigations of recent years have shown that alcohol has no particular value in the diet of the diabetic, and is indicated only in certain exceptional cases. As a usual thing the diabetic will do better without it. If, however, it is prescribed, it must be remembered that it must be reckoned with the food of the day, and allowance for it in the diet must be made at the rate of 7 calories per gram. The fact that most alcoholic beverages contain starch or sugar must also be kept in mind and care must be used in selecting one of negligible carbohydrate content.

INSTRUCTION OF THE PATIENT

The persuasion of the patient that he must remain aglycosuric and the arrangement for him of a proper diet are wasted energy unless he is so instructed that he can continue the rigid dietetic regime. The skill with which some of these patients are able to arrange menus with the proper quantities of food stuffs is astonishing. This ability is limited only by the intelligence of the patient and the patience of the physician; of these two, the latter is the more important. Most patients can be taught to use the percentage food tables that are found in most text books of dietics. The rest can be taught to calculate the diets by some group arrangement of the foods, as the 5 and 10% vegetables, etc. The use of scales and other measuring devices should be demonstrated. Finally, they should be taught to examine their own urines. Success in the management of diabetes mellitus depends much more largely on the ability of the patient to care for himself from day to day than it does on the type of diet. The effort involved in the instruction of the patients is more than out-weighted by the added years of comfortable, useful life that result.

TREATMENT OF COMPLICATIONS

A discussion of the mild type of diabetes that is under consideration would be incomplete without mention of the complications that are so important in these patients. It has already been pointed out that these are more easily prevented than cured and that proper diet and hygiene may be expected to prevent their occurrence in the majority of cases. If they have occurred, however, and are amenable to treatment, they must be attacked courageously. This is especially true of infections; their damaging effect in increasing the severity of the diabetes is such that their radical elimination is clearly indicated. Not only does this apply to such major pathology as gangrene

and large abscesses, but also to the minor infections—septic tonsils, abscessed teeth and furunculosis. With the modern treatment of diabetes, there is little more reason for fearing surgery in a properly prepared diabetic than in a non-diabetic subject and to withhold from him the benefit to his comfort or safety that might be expected from an operation is unfair.

On the other hand, it is frequently useless and often dangerous to attempt to treat the complications without controlling the diabetic state. That such attempts are frequently made is notorious. It is in those patients with gangrene that we see this error most often. The surgeon operates, and having been impressed with the alleged dangers of dietetic treatment, allows the glycosuria to continue. The wounds heal slowly or not at all. The gangrene spreads and second and third operations are required. Death finally relieves the patient of his suffering. On the other hand the result of properly performed operations on the controlled diabetics is as good as those on non-diabetic patients. It is a rule that may be applied to practically all diabetic patients, that their complications can be well treated only as their diabetes is well treated.

CONCLUSION

In conclusion I wish to again insist that no case of diabetes mellitus is so benign or mild as to warrant neglect. Dr. Joslin has estimated that there are a million diabetics in the United States. By rigid treatment we can add years to the life of each and prevent an untold amount of suffering, incapacity and economic loss. Improvement in the mortality records of diabetes depends much more on the physician who sees the patients in their homes than on the specialist or the clinic.

DISCUSSION

DR. CHARLES STUART WILSON, Detroit: I think the danger of the term is very evident to one who is doing work in diabetics, where he sees patients come in, supposedly mild, with coma and die. A patient may be considered a mild diabetic by the attending physician, and still he runs symptoms. If Dr. Marsh did not define mild diabetes as described in his paper, I hope he will do so in his closing remarks.

One point I would like to emphasize is the question of complications in diabetes. I rather got the impression from what he said that gangrene, for instance, occurs in patients only when they have sugar and other kinds of diabetes. He did not mean that because it is not uncommon to see diabetes gangrene in a sugar free diabetic, and the diabetic has normal blood sugar, especially if the diabetes occurs after the age of fifty. Because of complications to the vessel walls and endarteritis, these patients do very badly, even though under diabetic management. The sequence is followed by another cause, but whether the patient is treated for diabetes or not, there is without doubt a blocking condition in the vessels. I think that should be kept in mind because you cannot give too much

encouragement to a patient with a gangrenous complication just because he is sugar free and his blood sugar is normal and he has not the other symptoms of diabetes.

I feel the point the essayist made regarding the treatment of diabetes is very essential. I think it is fundamental and certainly is overlooked. Patients occasionally have a trace of sugar which is not serious, and probably they are all right. It is a great mistake not to have all diabetics under constant management. It is true, the ultimate result will depend on the length of time of life, and freedom from complications should be greatly increased.

I was in hopes among the complications Dr. Marsh would speak of the kidney lesions we sometimes see in combination with the sclerotic patients, the nephritis and diabetes. They oftentimes present a puzzling topic. A patient being a generalized sclerotic case, with manifestations on part of kidney function, it is a question whether that case can be classified as mild or not in terms of sugar. He presents conservation of kidney function and conservation of sugar metabolism.

DR. LEONARD F. C. WENDT, Detroit: The essayist has covered the method of treatment in the complications of diabetes. I was very glad to hear him say they did not use alcohol which previously was used to a large extent. I think if all men will try, they will get along better without alcohol than with it.

The doctor did not mention one thing that I would like to bring up and that is the use of sodium bicarbonate. In previous years sodium bicarbonate was used promiscuously in large quantities to avoid and prevent acidosis. I think if all men would try to get along without sodium bicarbonate, they would derive greater satisfaction and their cases would progress more rapidly.

Dr. Wilson brought up the point of angitis obliterans. We have at the present time at the hospital in Detroit a patient who had had a thyroidectomy performed ten years ago. Five years ago an arm was amputated. The patient was admitted to the hospital as a mild case of diabetes, with several ulcerations on the shoulder, very mild gangrene of the leg, and was immediately made sugar free, acetone and diacetic acid free, and has been so for practically a month. The CO (2) blood was not severe and still angitis has extended way up into the groin so that the surgeon refuses to operate.

I would like Dr. Marsh in closing the discussion to say something about his experience with the sodium bicarbonate treatment in these cases. The medical journals are now favoring the elimination of the sodium bicarbonate treatment, and personally I get along better without it than with it.

DR. MARSH (closing): Dr. Wilson has asked me to define what I mean by the term mild diabetes. I think there is nothing more unsatisfactory than the classification of diabetics. We have no scheme whereby we can put diabetics into certain compartments and say this case is the first degree of severity, and that one the second or third degree. We have no test of any kind whereby we can make such a distinction. There is a certain group of diabetics that I think we can call mild, that type of diabetic which I defined in the beginning of my paper before Dr. Wilson arrived; that diabetic who is usually elderly, often obese, whose symptoms are mild in proportion to the burden of diet, whose glycosuria has been discovered at a routine examination, with a high "carbohydrate tolerance." That is the type of diabetic I wished to discuss and insist upon the treatment of these diabetics.

The question of complications, referring particularly to the cardiovascular and renal systems, is

sometimes a difficult one and leads us into the field of speculation. In some cases arteriosclerosis, for instance, is partially the result of the diabetes. In other cases we cannot help but wonder if the diabetes is not partially the result of arteriosclerosis of the pancreatic vessels, for instance. It is true that diabetics as a group have a higher degree of arteriosclerosis at an early age than ordinary subjects. Some of these patients who have had a mild diabetes for ten years have developed a rather severe grade of arteriosclerosis, and it is not surprising they should develop gangrene even though they are sugar free. My point is that if we started treatment in such cases ten years before, gangrene would not have developed. We have a man in the ward at present of the type mentioned by Dr. Wilson. He came in with gangrene two or three years ago. He was sugar free, but developed gangrene of the toe. He had had diabetes for ten years without treatment. The diatetic treatment of diabetes could not and should not be expected to repair the damage already done. My plea is that we will avoid, at least, a certain amount of this complicating gangrene if we treat the diabetic from the first day of the diabetes. We cannot do that if it is not discovered. In many cases it is known that a man has diabetes; the patient knows it and the doctors know it. These patients should not go on without treatment.

The same remarks apply to the nephritis associated with diabetes, the nephritis associated with hypertension. Of 100 patients, elderly mild diabetics, 22 are dead. Six of these died of disease involving the renal or cardiac system, leaving out the gangrene group. Nine out of 22 patients died of diseases not referable to diabetes, such as apoplexy, Bright's disease, and so on.

Regarding the so-called pre-diabetic, unfortunately we have no clear cut method of determining that a patient is a pre-diabetic. The blood sugar curve, after the ingestion of a measured amount of glucose, is not a mathematical certainty. There are many difficulties connected with it, not only with reference to blood sugar determinations themselves, but to other factors. Many patients will develop a psychic reaction from the withdrawal of blood. This was pointed out recently in normal medical students with a severe type of reaction; the blood sugar was as high as 2 per cent.

With regard to the use of sodium bicarbonate, we have not used it since July, 1919, with the single exception that a man who came in from camp died three or four hours after he arrived at the hospital. In his case we used sodium bicarbonate without effect.

Dr. Joslin, who is one of the best authorities on diabetes in the United States, maintains that if we treat these patients carefully from the start we can add very materially to the prolongation of their lives, and the total economic gain to the country would be enormous.

CHRONIC MASTOIDITIS*

DOCTORS SLEIGHT AND HAUGHEY
BATTLE CREEK, MICH.

Chronic Mastoiditis is more frequent than was formerly supposed. It is always preceded by suppuration of the middle ear, except in those comparatively rare cases following traumatism.

The mastoid cells are an extension from the antrum, and are lined by an extension of the

mucous membrane or mucoperiosteum, which lines the eustachian tube, tympanum and antrum. The bone is nourished from this membrane. Anything interfering with this nourishment will cause caries.

Chronic pus infection which does not clear up causes a decrease in vitality, then an ulceration of the mucoperiosteum, later followed by caries. There may be polyps from the carious bone. This caries may break through in any direction, middle cerebral fossa, posterior cerebella fossa, the tympanic cavity, the external semicircular canal, the external auditory canal subperiosteal, the lateral sinus.

Mastoid complications occur especially often in tuberculosis, scarlet fever, measles. Less often in typhoid fever, influenza, etc. Cholesteatomata produce necrosis of bone by pressure, and cause great cavities which may extend to the cranial cavity as well as any part of the bone. The minute pathology or the pathology of complications is too well known to be repeated here.

The diagnosis of presence of chronic mastoiditis is not as a rule difficult. The symptoms are nearly the same as that of chronic otitis media—being merely an extension of the condition. To diagnose the extent of involvement and the presence or absence of dangerous complications is a difficult matter and is likely to tax one's skill.

It is a question of justification for operation largely, rather than the diagnosis of the condition. The radical mastoid operation is a major procedure involving much loss of time from business and with the certainty of a large percentage still having a discharge—with some having dizziness or other symptoms, paralysis, etc.

The determination of when operation is advisable depends upon the history and course of the disease, the discharge, polyps, pain on pressure, temperature, exacerbations, but most of all upon the inspection and careful examination of the diseased region. The aurist will get to weigh all these things more or less subconsciously—then give the patient that which will be of most benefit.

The radical mastoid operation should not be undertaken except possibly in the presence of acute exacerbations, until all available methods of treatment through the auditory canal have failed. Polyps should be removed, drainage established and attempt made to clear up the condition previously. If efficient care and necessary minor procedures do not lessen the discharge, or remove the odor in four or five weeks, then the question of a radical operation should be considered.

If the condition of comfort of the patient

*Read at annual meeting M. S. M. S., Flint, 1922.

cannot be definitely improved, (the question of grave complication not being involved) the operation should not be done—but if there is grave complication or great inconveniences the operation is advisable.

The radical operation, we believe, should be done in a conservative manner—remove what must be removed, do what should be done, but then stop. We believe many radical mastoid operations have been failures or a source of profound annoyance to the patient on account of being too radical. The labyrinth may be disturbed, the external semi-circular canal, especially, with its attendant annoyance, or the facial nerve may, and often is injured with that disfiguration. The cavity may become and remain dry, or it may not, and we do not believe an extensive and very radical operation tends any more to complete success in this matter than a more conservative operation.

We do not use a Tirsch graft, but do a plastic operation on the posterior canal wall—opening it in its entire depth, thus securing a good space for later treatment and a very satisfactory dermatization. The posterior incision is sutured at operation and usually the dressings are all off the patient in two weeks, except the local dressing in the cavity. We do not use the blood clot closure either in our simple or radical operations.

The steps of the operation have been described more completely and more skillfully than we can, but we wish merely to sound a warning, as our experience has pointed, towards conservatism even in the radical mastoid operation. If we succeed in inciting a full and complete discussion, we shall consider ourselves well repaid.

DISCUSSION

DR. JOHN E. GLEASON, Detroit: It seems to me that the hardest thing to decide in these chronic cases is what we shall do. It has been our policy always to try conservative methods of medication in chronic ears first, in the absence of other more serious indications, until we are sure we are not going to get a dry ear. If we do not get a dry ear then we have to consider whether we have a tubal ear, attic suppuration or mastoid involvement. If we do not have perforation low down in the drum in front of the line of the malleus, we consider it a tubal ear, and the only kind of tubal ear treatment that has been successful with us has been curettage of the tube. When we find we have a tubal ear that will not dry up under local treatment we advise a radical operation. I do not agree with the essayist that we should do as little as possible. A number of years ago when Doctor Heath was in this country I had occasion to spend two weeks in Boston seeing him operate with his modified radical operation on chronic discharging ears, and had occasion also to follow the reports of those cases, and the results were entirely unsatisfactory. That has been my experience. I have only done the Heath operation where I had extraordinarily good hearing and where I did not want to take any chances, and the results were good, but I will never

again attempt the Heath operation. It has not been successful as far as the patient is concerned, for they still have a discharging ear, and that is the thing that influences the patient to have this operation done. One thing Heath has done for us is the production of his bridge forcep. If those who have not seen it will inquire for it I think they will find it useful in taking down the bridge in this operation.

The dressing and after care of these cases is practically as Doctor Haughey states—the incision is made far back, the wound closed immediately, usually within a week the bandage can be removed and the colloid dressing applied. The after care of the middle ear cavity is comparatively simple. We have never attempted anything except to let nature take her course and guiding it. By doing the most radical operation possible, cleaning out the middle ear down into the tube, we have been able to get practically dry ears in a majority of our cases.

DR. GEORGE E. FROTHINGHAM, Detroit: I would like to add one thing that I have not heard mentioned, and that is that in cases of chronic suppurative otitis, those cases where we find cholestrin, we should practically always do a radical operation. I think they require special attention and early attention, because from the pressure on the bony wall we are very liable to have an infection deeper into the labyrinth.

DR. B. N. COLVER, Battle Creek: I do not hear any discussion of the question of skin graft in the radical mastoid. Not long ago someone told me about some operator who used a method for applying skin graft that seemed worth trying. He filled the cavity with normal salt solution at the close of the operation, then overlaid the surface with a skin graft and withdrew the saline solution with a small tube, and as he did this the skin graft applied itself to the wound. It seems to me that is well worth trying in the application of a Thiersch graft.

DR. AMIL AMBERG, Detroit: I would like to mention one point concerning the operation the essayist speaks of. An ordinary radical mastoid operation can be done by any trained otologist, but the modified mastoid operation of which the doctor speaks required great experience and great skill.

DR. ROY B. CANFIELD, Ann Arbor: I would like to call attention to the fact that in chronic suppurative otitis the pathological changes in the bone extend into the Haversian system, a point which cannot be reached by a syringe, consequently the cure depends upon the replacement of the carious bone and the cholestrin which is present in all cases by healthy epidermis. To my mind the Thiersch graft or any other kind of graft delays the ultimate cure and produces only a temporarily satisfactory result; but we must realize that the Thiersch graft must desquamate and come off, consequently the patient cannot do well until that has happened and cannot get well until healthy skin has grown in from the margin, has penetrated the Haversian system and replaced the pathology in the bone at a distance from the field of operation. Nor can he be well until this epidemic has lost the characteristics of skin and these characteristics have been replaced by those of the horny layer of the skin—that is, until the mastoid is covered with a membrane very much like the finger nails. The ultimate, final cure resulting from radical mastoid operation occurs when Nature has permitted the skin growing in from the margins to penetrate the Haversian canal, consequently cure from a radical mastoid operation requires six months or a year.

DR. WILFRID HAUGHEY, (closing): I do not

think I advocated a modified radical mastoid generally. I said to do what is necessary, but as little as is necessary. The radical operation involves a certain amount of surgery, and I do not think these radical exenterations are often necessary.

In the after care, Dr. Gleason's experience is the same as mine. It does not take much care—keep the opening through the canal clean and see to it that the dermatization is healthy as it progresses.

Of course, as soon as you make a diagnosis of cholestrin, that means mastoid operation.

I said I did not use the Thiersch graft. I have used it, but there is always a foul desquamation. It must grow and then come off, but I think the healing is delayed, as Dr. Canfield said. All I do is to split the canal wall, tie one side down and the other side up, and dermatization takes place from the edges of the canal wall.

I have tried the Heath modified operation, but I cannot see how he will accomplish what a radical operation is supposed to accomplish. A radical operation involves doing certain things, and when you have done them, establishing your drainage and give a chance for dermatization.

As to results, I do not know whether my percentage of cures is better than anybody's else, but when I was preparing this paper I went over my records for five or six years and found eighteen radical mastoids, two of which still have a little discharge. One was done within the last six months. The rest of them at the time of my last record were dry. The text books, when speaking of radical operations, say that sometimes 30 or 40 per cent are apt to have discharging ears when you get through.

INDICATIONS FOR RADIUM THERAPY IN OPHTHO-OTOLARYNGOLOGY*

R. E. LOUCKS, M. D.
DETROIT, MICH.

The indications in either of the above specialties cover a field large enough for separate consideration.

In addressing this section on the many uses for radium it would be unwise to touch on the etiology or pathology, so I will confine myself to special conditions.

I. Radium salts used locally in small, short-timed dosage, acts as a stimulus to slow, sluggish granulations and fistulae.

II. Large amounts, properly screened for a longer time, destroy benign and malignant growths.

III. Improperly screened or timed applications destroy healthy tissue, stimulate tumor growth and hasten metastasis.

The first two effects are constructive or curative in their therapeutic application, while the latter is destructive and a harmful measure.

This dual action of the radium salts has to be considered in every case about to be treated, so that I wish to emphasize the importance of experience and technique, with a clear knowledge of the physics of the element.

*Read at annual meeting M. S. M. S., Flint, 1922.

1. Radium treatment is indicated (and is a specific) in basal celled carcinoma, involving the skin covering the orbit and lids of the eye.

2. Epithelioma of the palpebral borders.

3. Lupus vulgaris or rosacea of the skin surrounding the palpebral fissure.

4. Sarcomas, Carcinoma and other tumors involving the orbit.

5. Vernal catarrh, pterygium and slow healing ulcers of the cornea or conjunctiva.

6. Relief in trachoma and questionable benefit in glaucoma.

7. Palliation in traumatic and senile cataract. It is noted that the cornea and optic nerve are resistant to the action of the gamma rays of radium.

II. In treating the external ear or external auditory canal for lupus or malignancy, the greatest care is necessary on account of the proximity of the cartilage, which is very susceptible to the rays on account of its poor blood circulation.

1. Chronic middle ear disease with granulations, but caution should be exercised on account of the possibility of bone necrosis.

2. Chronic progressive deafness is benefited in-so-far as the fibrosis of the external canal intensifies sound.

3. Chronic fistulae following mastoid operations.

III. Laryngology specifies diseases of the larynx, pharynx and fauces to and including the anterior pillars and uvulae.

The many conditions of the oral cavity that are amenable, such as growths of the tongue, jaws and palate will be passed, but I wish to draw your attention to the specific action of the beta rays of radium on leucoplakia of the buccal mucous membrane.

Growths within the nares either of the septum or turbinates. It will reduce hypertrophy without destroying the mucous follicles and prevent the recurrence of polypi after surgical removal. Growths of the pharynx, nasopharynx and tonsils.

Chronically infected tonsils without excess of hypertrophy is the most modern and popular condition for the radium therapist to treat. Suffice to say in a discussion of this kind that the results are satisfactory. Simplicity of application, freedom from danger, hemorrhage and pain are appealing to modern medicine.

Malignant growths of the larynx have not been successful in the author's experience, yet many favorable cases are reported.

Direct application to papillomata or pre and post operative treatment after surgical removal to prevent recurrence.

Cervical adenitis either tubercular or staphylococcus in origin respond to gamma radiation.

Furthermore it is the author's rule to recommend all cases of enlarged lymph nodes to have radiation before tonsilectomy is performed.

February, 1916.

Case Report No. 193.

Miss L., Nurse at Harper Hospital.

Complaint—Chronic fistula following a mastoid operation.

History—Had a successful mastoid operation over a year ago, but a chronic fistula remained. Had two subsequent operations to close the fistula without results.

Examination revealed a fistula one C M in depth, discharging a small amount of thin mucus with a tongue of granulation occupying the tract.

Cocaine and adrenalin were applied locally and a 25 MG tube of radium, screened with only a half MM of silver was held within the fistula for one hour.

This treatment lessened the size of the granulation and the amount of the discharge only, so that another treatment of the same amount and for the same time was given in two months. The granulation then contracted and a scab formed leaving a healthy and smooth looking scar.

June 16, 1921.

Case Report No. 663.

Mr. R. C., mechanic.

Complaint—Left nasal obstruction.

Family history—Mother died at fifty-eight years of age, cancer of uterus.

Past History—Was a pugilist. Had nose broken four times. The last fracture was eight years ago. Two years ago had difficulty in breathing and at that time had an operation.

About eighteen months ago had the left nares curved, but the growth soon returned.

Examination—A granular cauliflower growth occupying the entire left nasal space.

Under cocaine and adrenalin locally the growth was seen to arise from the anterior part of the inferior turbinal, and had extended to the mucous membrane of the anterior nares, the upper nasal space and the septum for fully two square C MS.

A section was taken at Solvay hospital which proved to be a papilloma of a suspicious character.

Treatment—Was given 140 MGS in three tubes, screened in one half MM silver, laid in a wax base and held in nares with both sides exposed and held in place with packing for three hours.

Follow Up—It is now a year and there is no evidence of the growth. The nasal mucous membrane is smooth but there still remains a small ulcer of the septum that is responding slowly.

June 12, 1920.

Case Report No. 565.

Mr. Walter R. H., Salesman.

Complaint—Nasal polypi and asthma.

History—Had nasal polypi removed from both nares every two years for some time.

A partial middle turbinectomy with curettement was done on left nares two years ago. Has had asthmatic and angina attacks for the last four weeks.

Examination—Several large and small polypi were snared from each nares ten days ago. The local swelling was overcome with adrenalin and cocaine.

Treatment—June 20: Was given 40 MGs in one half MM silver capsule and rubber dam, held in right middle meatus for two hours.

July 26, 1920—50 MGs in one half MM silver and rubber dam was held in the middle meatus of each nares for two hours.

July, 1921—There is considerable atrophy of the inferior and middle turbinals. The mucous membrane of the middle meatus has a bluish polypoid appearance but not the pearl gray of the true polyp. The nares is free with excellent breathing space. There is no evidence of sinus drainage and he has been free from asthma and cardiac angina.

Does not have attacks of rhinitis with polypoid mucous drainage now.

May 3, 1921.

Case Report No. 654.

Mr. C. W. L., Jackson, Michigan. Age, 53 years. Occupation, tinner.

Complaint—Goitre and a chronic sore throat.

Duration—Four years.

Family History—Negative except that one sister had a goitre.

Personal History—Had diphtheria at ten years of age.

Present condition began about four years ago after an attack of tonsillitis. A slight change in weather or exposure would precipitate a rawness of the throat with difficulty in swallowing. Had local treatments with no results.

Patient feels extremely nervous, perspires easily, has palpitation after eating, or on the least exertion. Has a good appetite but unable to work on account of fatigue.

Examination—Eyes prominent, giving him an anxious expression, skin sallow and tongue tremulous.

Both tonsils enlarged with reddened margins and many crypts open on their surface which are filled with infectious necrotic material.

The neck is decidedly enlarged over the thyroid gland. The right lobe is larger than the left and many small adenomatous cysts are palpable. The fingers and hands have a fine tremor on extension.

Heart action rapid. Apex impact heavy but no murmur detected. Pulse rate 100. Systolic B. P. 180, Diastolic 100. Metabolic rate 65.98 calories or a -1- 27.

Upper circumference of neck 15¼ inches, middle, 16, lower, 16¾ inches.

Diagnosis—Exophthalmic hyperthyroidism. Caused by infected tonsils lighting up an old adenoma.

Prognosis—Good.

Treatment—180 MGs radium screened in one half MM silver 1 MM brass and 1 MM rubber made into a gauze pad two C M thick, was held over the left lobe of thyroid for eight hours, then over the right lobe for ten hours, or a total of eighteen hours over thyroid gland.

II., 60 MGs radium with one half MM silver, 1 MM brass and 1 MM rubber and 1½ CMs of tight gauze bandage was held behind the angle of jaw below the ear or over the tonsil area simultaneously with the thyroid treatment, but for ten hours over each side or a total of twenty hours.

September 30, 1921—Four and a half months after the treatment all of the above subjective and objective symptoms have subsided.

He has been able to work for the past three months. The tonsils are normal in size, lie well within the pillars and give no trouble. The size of the thyroid gland has decreased, as the neck measurements prove, and there is no noticeable evidence of the former activity.

Pulse rate was 82. Systolic B. P. 150, Diastolic 90, or a decrease of twenty pulse pressure.

Basal metabolism now 57.56 Calories or a -1- 19. The neck measurements have decreased nearly one inch in size.

(He has not been examined since September but he reports that his throat gives no trouble, and that all nervous and heart symptoms have ceased.)

X-RAY TREATMENT IN THE DISEASES OF THE EAR, NOSE AND THROAT*

By WILLIAM A. EVANS, M. D.
DETROIT, MICH.

I offer no apology for bringing this subject to the attention of this section of the State Meeting. In many other specialties radiation has become an important therapeutic measure, and we believe that sufficient evidence has been accumulated in your specialty so that even conservative radiologists can state with confidence that radiation should play a prominent part in the treatment of certain diseases of the ear, nose and throat. And, further, I am not anticipating a quarrel, for I am sure that all of us are here to learn of methods that will assist us in restoring our patients to normal. I am not advocating that radiologists should treat patients based on their own diagnosis, but I am hoping to persuade you that our method has sufficient virtue to warrant your referring certain cases to us for treatment.

While there is still some controversy regarding the nature of the changes occurring in radiated tissue, it is agreed that certain cells are stimulated, injured or destroyed, depending on the factors used in giving the treatment and that as an associated result of these changes, local immunity to infection is influenced.

In this connection, I wish to point out that the results obtained in exposing infected areas to radiation are not due to the direct action of the rays on the infecting agent, but are rather due to some biochemical change in the tissues. On the other hand, the ultra violet ray has a distinct germicidal action and in certain conditions of the throat it is advisable to combine the use of the ultra violet ray with the X-ray. This point will be elaborated upon later.

In analyzing the beneficial results that are obtained in the treatment of nose and throat conditions, we find that the greatest benefit comes from the action of the ray which results in destruction of the tissues. We are referring to the well known sensitiveness of lymphoid tissue to radiation. In fact, practically all of the advantages which accrue from this treatment are directly associated with atrophy of the lymphoid tissue.

Before taking up in detail the lesions which are amenable to treatment, we would like to answer certain objections which are raised to exposing the neck region to radiation. Fear has been expressed that serious damage will be done to the thyroid and parotid glands and other normal tissue. The writer has observed

no bad results following proper dosage, even when the area exposed is extensive, as is necessary when treating cervical adenitis; or when the number of treatments was far beyond that used in the present technique for nose and throat lesions. Further, Witherbee, (1) of New York, the leader in advocating this method of treatment, has seen no untoward symptoms in his treatment of over six hundred cases. Your cases can be referred to any radiologist experienced in therapy, with safety as regards X-ray dermatitis or complications. Again, the objection is frequently expressed that the results are temporary and that the lymphoid tissue in the throat early returns to its condition previous to radiation. While tonsil treatment, as such, has been practiced only two years and this is too short an interval to permit of proper determination of the end results, many radiologists have called back their cases treated for cervical adenitis, and their conclusions are that the changes procured in the lymphoid tissue of the nasopharynx are permanent, at least for a period of from six to ten years.

I do not believe that accidents incident to nose and throat surgery are arguments against surgical treatment, yet an enumeration of the dangers and complications of surgery of the ear, nose and throat, will serve as an expression of the advantages of treatment by radiation. Discounting the surgical risks such as severe hemorrhage, lung abscess and other pulmonary complications and leaving out the economic issues such as loss of time, the expense of surgery and also disregarding the question of the patient's comfort, there are still reasons why radiation should be considered in preference to surgical treatment.

A recent article in *The Laryngoscope* (3) gave the percentage of failures as regards clinical results in operations upon the tonsils and other adenoid tissue in the nose and throat as over 20%. These figures concern patients of all ages and our own experience leads us to believe that there is a much higher percentage of failures in patients operated upon within the early years of life. The failure of surgery in these latter cases is easily understood. They are dependent upon the normal variation in the extent and function of the lymphoid tissue between youth and adult life. In the early years, the lymphoid tissue is much more extensive, the faucial tonsil containing a relatively small part of this structure, so that the customary tonsil and adenoid operation does not ordinarily remove all of the offending tissue.

And again, the ordinary T. and A. operation is frequently followed by a very excessive hy-

*Read at annual meeting M. S. M. S., Flint, 1922.

hypertrophy of the remaining lymphoid tissue of Waldeyer's ring. Of still more importance, there is a growing belief that the lymphoid tissue of the nasopharynx plays a very important part in the establishment of immunity against tuberculosis and other infections and that the removal of this tissue previous to the establishment of this immunity might have deleterious results. We have recently observed several cases of severe adenitis in cases where the tonsils and adenoids have been removed by competent men. It is evident that even though the tonsil route of infection is closed, other avenues of entrance of infection to the cervical glands are developed.

Immediately following the publication of Witherbee's (1) and his co-workers' article on the treatment of tonsils, we undertook the work according to their technique and our records to date approximate eighty cases where the treatment was prescribed for throat conditions primarily. Believing that many respiratory disorders in infants are associated with lymphoid hypertrophy lower down in the tract, we have treated a considerable number of such cases under the observation of several of our leading pediatricians. The treatment in this class of cases included exposures over the upper mediastinum, both from the front and in back, in addition to the ordinary throat treatments. This work was further supplemented by a more or less extensive study of the effects of X-ray exposure on diphtheria carriers. This was done in co-operation with Dr. Meader of the Detroit Board of Health and the results are being published in an article by Dr. P. M. Hickey of Detroit. (2) This work demonstrated the efficacy of X-ray exposures in the treatment of diphtheria carriers, the percentage of cures being higher than by any other method. Whether the infection was in the ear, nose or throat, there was a higher percentage of sterilizations. In addition to the action upon the Kloebs-Loeffler bacillus, it was noted that practically every throat was cleared of the streptococcus-hemolyticus and other virulent organisms. Further material for this paper was gathered from our treatment records for the past eleven years.

In reviewing work done upon the ear, in which there was definite clinical improvement, we find the type of disturbance responding to the treatment to be largely that associated with a low grade infection, that is, the sub-acute ear of children and the more chronic ear of the adult. Results have also been satisfactory in those cases in which the radiation was given for the purpose of stimulating granulations in the retarded healing following mastoid operation.

Much has been written regarding the relief of otosclerosis, but our experience has been limited to two cases and no conclusions could be drawn. Results claimed by other workers, however, indicate a high percentage of improvement in otosclerosis. Many ear symptoms associated with obstruction of the eustachian tubes by pharyngeal conditions of course are relieved by exposure of the nasopharynx.

We have had little experience with diseased conditions of the nose and nasal accessory sinuses. We have treated cases of chronic paranasal sinus disease, but the results have not been encouraging.

The greatest satisfaction has been derived from treating those cases presenting the various types of lymphoid hypertrophy. We are able to classify our younger cases in three groups:

Group 1. In which there is hypertrophy of all of the elements of Waldeyer's ring, the hypertrophy being of the simple type. The symptoms in these cases are largely those of obstruction to the air passages from the hypertrophied tissue. We have had no failures in this classification. We believe that this is the ideal case for radiation and furthermore, that surgery is contra-indicated.

Group 2. Those cases in which the tonsils have been removed and also a more or less complete removal of the adenoid tissue of the nasopharynx, in which there has been only temporary improvement from the surgical treatment. In this class also, the percentage of satisfactory results is high. The new lymphoid tissue stimulated to growth by the removal of the faucial and pharyngeal tonsils responds to the treatment as readily as the original lymphoid structure.

Group 3. Includes those cases of hypertrophy of all of the lymphoid structures in the nasopharynx, associated with evidence of repeated or active infection. Our series in this group have not been of sufficient number to permit of conclusions of value. It is in this type of case that Pacini (3) recommends the combination of ultra violet ray and the X-ray. Pacini, however, classifies the infected tonsils into two main groups, dependent upon the degree of inflammatory change. In the first group the treatment indicated would be the combined ultra violet ray and the X-ray, the ultra violet ray having definite antiseptic and germicidal action and the X-ray affecting the atrophic changes. In the cases showing the more advanced inflammatory changes, in which the tonsils are markedly reddened and congested, the surgical method alone should be considered in the treatment. Also, the cases showing the serious complications of tonsil

infection, such as endocarditis, pleurisy or arthritic changes, should not be subjected to the slow therapeusis of radiation.

There is a group of cases in young children which cannot be properly classified under the nose and throat group, for the pathology in the upper respiratory tract is of less importance than the changes in the lymphoid tissue surrounding the lower trachea and inner bronchi. Cases in this group are subject to frequent colds, with attacks of asthma, either thymic or bronchial. The children are usually anemic and under-weight. The response to treatment here has been prompt and in many cases complete.

The adult cases can be conveniently grouped as:

Group 1. Those in which the tonsil is definitely hypertrophied, but not actively inflamed. The tonsillar crypts may be deep and contain pus. The results in these cases are just as satisfactory as those obtained in Group 1 of the child. There is rapid diminution in the size of the tonsil, the contraction of the tonsil permits of proper drainage of the crypts and as a result, freedom from arthritic symptoms occurs early in the course of the treatment.

Group 2. Those cases in which there is a history of tonsillectomy and removal of the adenoids. Examination of these throats reveals tags of lymphoid tissue in the position of the faucial tonsil or diffuse hypertrophy of the lymph nodes about the pharyngeal wall. These cases usually give a history of recurrent sore throat and in some cases symptoms suggesting toxemia. Very satisfactory results have been obtained in this group.

Group 3. Those cases in which the tonsils are small or buried, in which there is an excess of fibroid tissue. Usually the faucial tonsils and all of the throat structures show congestion and other signs of pharyngitis. We have obtained practically no results in this type of case.

No reference will be made to the treatment of tumors, malignant and otherwise, of the ear, nose and throat. We have used therapy, both superficial and deep, and have also used radium in certain cases, but we consider this subject as properly coming under the heading of general surgery. In the same way, the question of the treatment of chronic specific infections has been left to the consideration of others on the program.

TECHNIQUE

The technique that we employ is that recommended by Dr. Witherbee, subject to variations adapted to the individual case. Any equipment of the capacity of 80,000 volts can be used. The Coolidge tube is necessary for

the accurate control of the dosage. The amount of current used is 5 milliamperes, the skin target distance varies from 8 to 10 inches, and the time from 3 to 8 minutes, the filterage varying from 3 to 4 m. m. of aluminum. The time for children is less than that for adults and the more chronic cases of adults call for more exposure than the simple hypertrophies. Regarding the size of the area of exposure, this need not be more than $2\frac{1}{2}$ inches square and the treatment can be given through a cone of this size or leaded rubber can be used to protect the tissues surrounding an opening of this extent. Some little work has been done following the deep therapy methods, but no reports as to results are obtainable. We believe the original method to be the more desirable. The position of the patient on the table is prone, with face turned to the right or left, depending on the side being treated. The central ray is directed through a point in the center of a line drawn from the tip of the ear to the hyoid bone. Thus, the central rays pass just behind the angle of the jaw. Both sides are given treatment on the same day. The dose is repeated every twelve or fourteen days. In the simple hypertrophies, results are obtained in five to seven treatments, but in the more chronic inflammatory conditions, ten to twelve treatments may be necessary to obtain the desired results.

With reference to the treatment of the cases in early childhood showing bronchial asthma, we give a similar dose to the posterior mediastinum, opposite the bifurcation of the trachea, and on alternate weeks anteriorly with the central rays directed through the level of the second rib. This treatment to the anterior and posterior mediastinum should be supplemented by exposures of the region of the nasopharynx.

CONCLUSIONS

1. Radiation through the upper respiratory passages has a definite action on the bacterial flora, as evidenced by sterilization of the throat, both as regards the Kloebs-Loeffler bacillus and the hemolytic-streptococcus and other organisms.

2. Case of simple lymphoid hypertrophy, both in the child and in the adult, should be treated by radiation rather than by the surgical removal of the offending tissue.

3. There is a type of lymphoid infection in which satisfactory results will be obtained only by the combination of the ultra violet ray and the X-ray.

4. Actively infected tonsils should be surgically removed. This includes cases showing the usual serious complications of tonsillitis, such as endocarditis, nephritis, acute arthritis, etc.

5. Little or no beneficial results are obtained in treating tonsils of the fibroid type.

6. Post-operative radiation will increase the percentage of surgical cures.

7. The stimulating action of the ray can be used to overcome low grade infections of the middle ear and also stimulate healing in the several areas.

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DISCUSSION

DR. V. M. MOORE, Grand Rapids: Since Witherbee made his first report on the treatment of the tonsils a sort of wave of enthusiasm swept over the country and apparently took some people off their feet. Witherbee reported about 500 cases and gave no contra-indications whatever, claiming that the X-Ray was the only method of choice and that it would cure every case. After hearing Witherbee and talking with him I was not entirely impressed with the glowing reports he made, but still I had nothing to disprove what he had said. I therefore attempted to carry out some little investigations that I hoped might throw some light on this subject. In collaboration I took ten cases, five children and five adults, showing chronically infected tonsils. We treated one tonsil, covering the other tonsil with a pad of lead held in the mouth throughout the treatment by an assistant. At this time three treatments only were given, as recommended by Witherbee. After waiting two weeks from the time of the last treatment, both tonsils were removed and sent to Doctor Warthin of Ann Arbor for examination. At the time of removal cultures were made and we took notes as to their appearance. Doctor Warthin reported that he could see very little difference in the condition of the two tonsils following this treatment. The tonsil which was covered up appeared to be larger than the one treated, but the cultures were practically identical—cultures made by an incision into the tonsils with a sterile knife. In thinking this over I came to the conclusion that the tonsil that was covered really must have received some radiation, either secondary from the lead, or radiation from the tissue. We are therefore trying now a little different idea—that is, to remove one tonsil before beginning the treatment and treating the other tonsil. We now have a case all ready for the second operation and I hope that we will get some definite information as regards the effect of radiation in these cases.

As Dr. Evans said, the old chronic cases that have systemic infection do not seem to be suitable for treatment. Cases in which a great deal of fibrosis is present in the tonsils do not seem to respond to the treatment at all. They look about the same afterwards—they are just as red and have not reduced any in size and have just about as much infection. I do not believe these cases will ever be suitable for radiation treatment. Cases of simple hypertrophy in children seem to respond very well to a few treatments. The glands of the neck which are so commonly present disappear usually rather early. But in the middle class of

cases, those with infected tonsils in which as yet no systemic disturbance is present, is where we are uncertain of our ground. A few cases do not decide the matter. All of us who have treated these cases have seen recurrent cases clear up. The tonsil looks apparently normal and to all intents and purposes the tonsil is normal. I have seen other cases in which after treatment the oto-laryngologist can open up an abscess in the tonsil and find pus, and there is doubt in my mind whether it will take care of this infection. On the other hand, I think in cases of tuberculous glands of the neck which respond very well to radiation and apparently have no crypts to empty the infection out, it will in certain cases take care of the buried infection in the tonsil.

The question is not decided. The co-operation of the oto-laryngologist is absolutely essential. A number of radiologists are treating cases that do not come through the regular channels, and I think it is a grave mistake. I think the cases to be treated should be carefully chosen by the throat specialist, and when those are carefully checked up there should be no feeling on one side or the other. The only question should be to try to determine whether there is any value in this method in this middle class of cases.

I do not think there are any particular contra-indications as far as after results of treatment are concerned. We have been treating tuberculosis glands of the neck for years and we have not seen a hyperthyroidism develop, we have not seen any permanent dry mouth, and we have not seen any atrophy of the skin, so I do not believe the sequelae from that standpoint need be considered. But the whole question comes down to the fact whether it will put these tonsils back into normal condition, and if it will do it in certain cases we want to know in what type, and if it will not do at all we want to know. I think the radiologist with the co-operation of the oto-laryngologist should help us clear up this point.

DR. LEO C. DONNELLY, Detroit: I have given some ten thousand ultra-violet treatments, but I do not wish to appear here as believing that I know very much about ultra violet rays. Personally, I do not believe anybody knows very much about ultra-violet rays, but many of my patients claim they are benefited. Many patients with active tonsillitis after taking the treatment will swallow and say, "Doctor, that feels better." Some patients with acute tonsillitis clear up in two or three weeks, and in three or four days some will think they are well. I have had many sinus cases come to me, some chronic cases that have been going on for twenty-five or thirty years. Some of these people say they believe the ultra-violet ray helps them. I do not say it does. I use the ultra-violet ray as an adjunct. It will not do everything, but it will help, and if you use it in your throat work as an adjunct, I think most of you inside of three years will believe in it. But you must develop a technique, and you must do it yourself, not leave it to a nurse, any more than you would turn over surgery to a nurse.

DR. BURT R. SHURLEY, Detroit: I have been interested in this subject for a long time. I have tried to conscientiously sift out some of these cases and refer them for radium and X-Ray therapy where it seemed to be needed. It seems to me that this is purely an experimental proposition at the present time. It must be standardized before we can definitely promise results, and of course the papers we have heard this morning are along that line—standardizing and getting more definite information as to what we may expect. I think the patient, too, should thoroughly understand that

this is an experimental method of treatment at the present time; that we are trying to standardize the method as to the removal of tonsils and checking the pathology, but that any further treatment must be considered as experimental at the present time.

When we first received the surprising information that tonsils could be removed by the X-Ray, we found some of our patients were going to New York to have this marvelous method used upon them—those who were afraid of operation, or those who were timid on account of some unfortunate result of some sort—and of course we tried out this procedure. My X-Ray man went down to New York to get the technique and came back and we resorted to this method of treatment in cases that seemed to be bad risks for a tonsillectomy, or in very old people who for many reasons required palliative measures. The first four cases we treated with the X-Ray developed an acute tonsillitis, and while the tonsillar tissue seemed to be reduced at least one-half in some of these cases, the pathology of the tonsils as far as we were able to observe still existed.

There is no question about the value of the X-Ray in tubercular cervical glands, and undoubtedly the question of X-Ray technique is of the greatest importance. It must be standardized, and it must be done properly. Then we must select the cases with the greatest care, and if those who are particularly bad risks can receive some benefit from the X-Ray we should certainly have some definite information and know just which cases to treat and refer to the radiographer.

In regard to radium, I still believe that if a man has a polypoid or ethmoid disease it must be eradicated by surgical measures first, and if radium will prevent the return of the polypoid, of course, we shall be very glad to make use of it.

DR. ROY B. CANFIELD, Ann Arbor: At a recent symposium on this subject at the meeting of the western section of the American Rhinological, Otolological and Laryngological Association in Buffalo, this matter was pretty thoroughly discussed. It developed that the enthusiasm for X-Ray treatment of the diseased ear, nose and throat was felt chiefly by the radiologists, while those surgically minded were rather pessimistic about it. The conclusion apparently arrived at was that in diseases of the ear, nose and throat radio therapy had not yet proved of value. This seemed to be especially true of infections of the tonsils. In quite a long series of cases—I think about 70—that had received X-Ray treatment, and that afterwards were examined clinically, bacteriologically and pathologically, it seemed pretty definitely proven to those who had carried on the investigation that X-Ray treatment had not been of service to these patients. Those cases that had been carrying the diphtheria bacillus were proved to have it still present.

To those who know something about the pathology of otosclerosis it would seem difficult to believe that new bone formation in the internal ear associated with an aplasia of the nerve could be affected by any method of treatment whatsoever. On the other hand, it does seem to me that radio therapy does have a very definite value in certain conditions which the oto-laryngologist meets. It has been our custom at the University clinic to give routine X-Ray treatment of the thymus before doing any adenoid or tonsil operations in young children. On account of the large number of such children it became necessary to select those cases, so that now we give a preliminary thymic treatment to children who are to have their adenoids and tonsils removed and in whom there is any possibility of enlarged thymus. We know definitely that an X-Ray ex-

posure of three minutes with the coarsest tube has a definite effect on the size of the thymus. We know that at the end of four hours after the treatment the thymus is appreciably decreased in size, and that this decrease in size continues for about twenty-four hours, at the end of which time the effect has reached its maximum. Consequently we believe that these children, who might possibly react badly to a surgical operation, pass through this operation more successfully if they have had this treatment. We give preliminary thymic treatment in cases of foreign body in the bronchus or esophagus. These children seem to pass through instrumentation more easily, they react less, they take the anaesthetic better, and in general they seem to pass through this experience much more satisfactorily to the operator than when they have not had this preliminary thymic treatment. We all know there are certain types of children that do not do particularly well after an adenoid or tonsil operation, no matter how clearly the operation be indicated. These children have lymphoid tissue in the pharynx and nasopharynx even after a well performed adenoid and tonsil operation. Very often they develop a cough without much pathology as far as the internist is able to discover. They are supposed to have a mild bronchitis which does not do much harm but annoys the parents. They cough for several years, perhaps until they are ten or twelve years of age, at which time the cough disappears. In other words, after they have passed through these periods of extraordinary development they do not seem any longer to need the lymphoid tissue and there is an aplasia of the lymphoid tissue and the child improves.

While the radiologist is most enthusiastic about the treatment, the laryngologist is less enthusiastic, and yet the laryngologist is enthusiastic about adenoid and tonsil operations, of which great numbers have been unnecessarily performed and a great many very badly. We know in our own hearts that we are not having 100 per cent success, and we look to our colleagues working in other lines to help us out on this thing. I believe there are types of children which might be better if they were not operated and which might be definitely improved by the use of radio therapy. In this connection I want to mention the fact that with us at the University it has been proven that the lymphoid tissue of the pharynx and nasopharynx does have a very definite function and that this function is most clearly seen during the earliest periods of life—during the first year of life. It is during the first year of life that the child develops most rapidly. During the second year it does not seem to change much; then about the beginning of the third year there is a change, and then there is very little difference up to six years when it starts to school. You do not see much change from that time until it is eight or nine, and then again at about twelve. These are the periods of lymphoid tissue hypertrophy, between which periods the lymphoid tissue becomes smaller. These are periods of sore throat and inflammation. If a child is deprived of his lymphoid tissue during the first year of life he immediately builds up a tremendous mass of it and so on until at seventeen or eighteen you can take it away without doing him any harm. In these types of children it seems to me that adenoid and tonsil removal is especially contraindicated. If we can decrease the infection in this lymphoid tissue by the use of the X-Ray in these children, turn these cases over to the radiologist, we have gotten rid of a very interesting class of cases which perhaps they can do a service to.

I would like to emphasize the value in my experience of radiotherapy in caring for the potentially

thymic children, and I would like to suggest to all of you that you use radio therapy in such cases, especially in cases of foreign body in the bronchial tree.

DR. MYRON W. CLIFT, Flint: I would like to say a few words from the standpoint of the Roentgenologist. Up to the present time we have rayed approximately 200 cases for tonsillitis, and we feel we are not in position to take a very decided stand as to the efficacy of radio therapy. This is true in our experience, that a very large proportion of our cases are symptomatically better. We have not had any 100 per cent results, but at the present time we are trying to get all our patients back and form some statistics. My general impression is that a fair proportion of them perhaps show a much better history as to sore throat and infection than they did prior to radiation. We have had a considerable number of cases which have remained practically unimproved, and so far as we could see without any change one way or the other in the tonsils. Just what that proportion is I do not know yet.

In considering a subject of this kind it seems to me we must take into account some of the fundamentals we all know. First of all we all know absolutely that the X-Ray has ability to destroy lymphoid tissue. As far as experimental data is at hand the X-Ray or radium affects the tissue pretty much in a line running up from the embryonal tissue to the more mature tissue. The early reports in regard to X-Raying the tonsils showed that after adequate radiation we had a destruction of the lymphoid structures of the tonsils, leaving behind it a mass of fibrous tissue. In other words, the radiation destroyed the lymphoid tissue, but stimulated the production of fibrous tissue. So in applying radiation to the tonsil we have not only the lesion of the tonsil, but a mass of scar tissue left in place of the tonsil. The potentialities for future infection in that area it seems to me would be just the same as in any other scar tissue. I do not think there is sufficient evidence to warrant us in believing we can sterilize that tissue, bacteriologically speaking. Experiments have not proven that the Ray can kill bacteria. On the other hand, there is evidence such as Dr. Evans has given you, that it does in some degree change the character of the surrounding area and in a secondary way affect the bacteria. Personally, I feel we must have a lot more data in order to say how much advantage there is in its use on the tonsils. I am sure that in those cases that have a history of quinsy and peritonsillar abscess there is no use attempting to give them radium therapy; they are no better. I think it will take time, and in order to settle the question definitely I think it will take some institution like the Rockefeller Institute that has properly equipped laryngologists, X-Ray men and pathologists to work this question out. That would clear the atmosphere a lot. There is a lot of stuff published on this question that it seems to me has very little scientific foundation.

DR. CHARLES H. BAKER, Bay City: It has been a question in the minds of many of us as to how much dependence we could place on the various rays which are claimed to be beneficial. I think the concensus of opinion, after hearing these two papers, is that we still have a lot to learn. There has been some good accomplished, but I am in doubt as to whether we are on the right track yet. In the first place, it has been shown that as a bactericide both kinds of rays are useless. They do not destroy the pathogenic germs. We do find the claim that the use of the ray in cases of diphtheria carriers cuts down or removes the presence of the germs.

Dr. Canfield refers to a certain type of patients

in whom he finds a contra-indication. I think the physiologic changes that go on in early life must be considered. The Ray has an effect on the thymus and reduces its activity. The thymus belongs to the lymphatic system. The same ray that diminishes the thymus will also diminish the lymphoid tissue elsewhere in the neck, and if you diminish the activity of the lymphoid tissue you make it less suitable ground in which the diphtheria germ may grow, and that may be the reason why the diphtheria germ disappears by the use of the X-Ray. The people who are interested in endocrine study tell us that the thymus gland is a brake upon the activities of the other endocrine glands. They also tell us that the thyroid is the most combatant of any bacterial infection; that an active thyroid will check and limit bacterial activity and render children immune, and that these cases which are referred to us are those in which the thyroid is subnormal and is not doing its full duty as a destructive agent. It will probably be found if you investigate these cases further that the thymus is acting as a damper on the thyroid and if you put them under the Ray you control the thymus, you take off the brake, and the thyroid performs its normal function. In that case the patient will improve by the X-Ray or radium through the action upon the endocrine glands.

One question I want to refer to and that is the action of the Ray in preventing the return of nasal polypi. I think if you correct the underlying pathology you can expect a cure; but if you do not the polypi will continue to return, whether with radium or without.

DR. DON M. CAMPBELL, Detroit: I rise to rescue this discussion from the anaesthetic influence of the tonsil question. When the tonsil question is introduced we are apt to forget that there were other things said in these papers that did not refer to the tonsils—things that are very important and should not be passed over without some comment. I refer to the influence of the X-Ray in the stimulation of the healing process in a mastoid wound when healing has entirely ceased. The therapeutic use of the X-Ray in those cases has in my hands, with the help of Dr. Evans, been a chapter of real interest and pleasure. The therapeutic X-Ray has a decided influence in stimulating the slowly healing mastoid wound.

Another thing is mentioned by Dr. Loucks, and that deals with one of the very difficult problems of ophthalmology, and that is the management of vernal catarrh. There is no disease that has so long resisted our efforts to even improve as has this very disagreeable recurring infection of the conjunctiva during the hot months of summer. We have had several cases of vernal catarrh which we feel are cured with one or two applications of radium. That I believe is a thing which should not be entirely passed over, even though the tonsil is being discussed.

Another thing (I do not know whether Dr. Loucks referred to it or not) is the influence of radium upon an intra-ocular growth of great importance. I refer to retinal glioma. There have been some instances recorded in which both eyes had glioma, or in which one eye has been enucleated for glioma and suddenly it developed in the other eye. In those cases radium has had a very happy result in controlling the progress of the disease.

I want to say one thing about the tonsils, and that is that taking a comprehensive view of the subject of hypertrophy of the lymphoid tissue of the tonsils—this is not a disease but the result of a disease, and the removal of that by the X-Ray has always appeared to me to be the removal of the result of infection, and when we do that we leave

the status quo exactly as it was before the lymphoid tissue became hypertrophied, consequently we leave a condition in the throat which will be favorable for the reproduction of the disease which we have under consideration.

The influence of the X-Ray on the bacteriology of the tonsil was discussed in the meeting at Buffalo which Dr. Canfield mentioned, and one thing which appealed to me was that in the case discussed the smear was made by a Buffalo man (not Dr. Cott.) He took two tonsils, both diseased, and put them in test tubes. One he subjected to extensive X-Ray emanations over a considerable period; the other he did not subject to this treatment. But the subsequent bacteriological examination showed that the one that had been subjected to X-Ray treatment was exactly the same in flora and in the number of bacteria as the other. I do not know how much that means bacteriologically, but it appealed to me as being a very interesting experiment.

Another thing brought out at that meeting was the influence of the X-Ray upon the surrounding lymphatic structures, the carotid, the thyroid and the pituitary body—its importance in influencing future growth. However, I gather from Dr. Evans' paper that the technique has been developed in such a way that the X-Ray can be confined to some one place, so perhaps the outlying lymphatic structures can be protected.

I have found in my own experience that X-Ray treatment of tonsils has a place. There are a number of instances where one does not wish to subject a patient to the risk of surgical intervention, and in such cases as that it seems to me it is of real value.

DR. WILLIAM EVANS, (closing): Some thirty years ago as a young student I worked with Dr. Baker, and at that time I got my start towards conservatism. We are not far apart. I pointed out that my best results were with children. In reporting on the beneficial action of X-Rays, I am supported by many of my roentgenological friends, among whom are Dr. Allen of Springfield, a physician of wide clinical experience; Dr. McCandless of Kansas City, and others. Even allowing for enthusiasm, I believe we can give definite aid in the treatment of some diseases of the ear, nose and throat.

DR. R. E. LOUCKS, (closing): Anything given in my paper is the result of practical experience, and I would like to contradict the impression given out that this work is experimental. It is a fact, and we have the cases to prove it.

As regards the question of the thymus gland that Dr. Campbell spoke of, it is very important and we have done some research work along that line—the lymphoid tissue and the thymus gland. The thymus gland has not been clearly described, and we know that in certain cases we have a hyperplasia which is the result of something else. When we have a child that we think was a hyperplasia of the thymus gland I think it should be referred to the internist and pediatricist to get at the cause. If it is absolutely necessary to do an operation of any kind, the thymus gland should be X-Rayed to determine whether you have a hyperplasia or not. The thymus gland has been spoken of as treated by the X-Ray, but why give the X-Ray by the spark when you can put an innocent little pad there containing 50 milligrams, properly screened, and know absolutely that the thing is diminishing in size within twenty-four hours; or if your treatment is an eight-hour treatment, four hours on side and four on the other, or two hours in one place and two in another. If a child has hyperplasia of the thymus and it does

not die within twenty-four hours, it will live. You can prove this by the X-Ray shadow.

Another very interesting question is the conservation of the lymphoid tissue. My own opinion is that we will conclude in the next year or two that the X-Ray can be given to all children up to fourteen years of age; after that it may be given as it is now.

Another consideration is the statement that the tubercular tonsil should not be removed, but the child treated by the ultra violet ray. The ultra violet ray has a field, and if there is any bacteriological measure that has a place, use it. We do not claim any bacteriological action for radium, but we know that the ultra violet ray has a bactericidal effect, and if you have a tubercular tonsil it would be a precautionary measure to use the ultra violet ray, and then if you want to do a tonsillectomy, all right.

TRUE ECLAMPSIA AND RENAL ECLAMPSIA*

WALTER E. WELZ, M. D. F. A. C. S.

Case 1.—Personal Record 21,220. 3 Para, 27 years of age. February 20, 1917 convulsions, followed by the instrumental delivery of an eight month fetus, still born. October 24, 1918, normal delivery of living mature child; no toxemia during entire pregnancy. December 6, 1921 normal delivery of living mature child; no toxemia during pregnancy. Perfect health after first delivery.

Case 2.—Department of Health Record No. 28, 1921, 4 Para, 33 years of age. 1907 normal pregnancy and delivery. 1919, normal pregnancy and delivery. August 26, 1920, convulsions, followed by still birth at Kiefer Hospital. In the fourth pregnancy patient attended the Prenatal Clinic regularly from June 14, 1921, to December 3, 1921, when she was delivered of a living child at Kiefer Hospital. During pregnancy she was under careful supervision for toxemia, the result of glomerular nephritis. The outstanding symptoms during this period were high blood pressure, optic disc atrophy, slight increase in blood non protein nitrogen, polyuria, constant trace of albumin, no casts and low phenol sulphone phthalein output.

Case 3.—Department of Health Record No. 863, 1922. 3 Para, 22 years of age. September 8, 1920, convulsions followed by eight-month still birth. May 11, 1921, still birth of 30 weeks development. Pregnancy was under supervision of Prenatal Clinic. Prominent symptoms were pasty complexion, general edema, slightly increased blood pressure, decreased phenol sulphone phthalein output, decreased excretion of urine, marked albuminuria and casts. At present patient is again pregnant about 10 weeks. Blood pressure is 122-78, urine has trace of albumin and there is marked edema of the lower legs.

These three cases are all classed as eclampsia. According to my view, Case 1 was a typical case of eclampsia with perfect recovery of health. Cases 2 and 3 were primarily cases of nephritis before the beginning of pregnancy and the convulsions in these were the result of renal insufficiency occurring during pregnancy. To distinguish these from true eclampsia I shall call these renal eclampsia.

In the medical text books and literature

*Read at annual meeting M. S. M. S., Flint, 1922.

there is no attempt made to classify toxemias, which result in convulsions in late pregnancy and labor. Hundreds of case reports are published under the nomenclature eclampsia which are clinically quite different. Then a set of dogmatic rules for the care of eclampsia is followed without regard for the indications in the individual case. The inability to distinguish one type of eclampsia from the other results in confusion on the part of the medical attendant. The result is a higher mortality rate than should follow proper classification and care of such cases.

I shall make an effort to distinguish true eclampsia from renal eclampsia. True eclampsia is a toxic condition of late pregnancy produced by a toxin which is generated as the result of pregnancy in a previously normal woman. In my experience, this has occurred only in first pregnancies. Renal eclampsia is a toxic condition which may occur any time during the pregnant state as the result of renal insufficiency. This is always the result of a previous nephritis; there may be exacerbations during pregnancy. It may occur in any pregnancy, but is more frequent in multiparae. The individual affected may be unaware of the presence of the nephritis until the diagnosis is made during pregnancy, or in neglected cases after recovery following convulsions. The strain of pregnancy added to already damaged kidneys results in renal insufficiency in pregnancy which is usually confused with the true pre-eclampsia toxemia.

The most characteristic pathologic changes of true eclampsia are found in the liver. These consist of thrombotic processes in the smaller portal vessels and areas of necrosis of liver substance at the periphery of individual lobules. (1.) *Heinrichsdorf after a review of this subject states that these lesions are pathognomonic when present, but were not always present in the cases classed clinically as eclampsia which he examined. The majority of eclamptic cases which have gone to autopsy have shown renal changes from acute or chronic nephritis with degeneration and necrosis of the epithelium of the convoluted tubules.

(1.) **Bar in 38 autopsies found severe renal lesions in one half of the cases examined by him and slight lesions in the remainder. As early as 1881 (2) ***Ingerslev showed that urinary changes noted by various observers have not been uniform in all cases

In the reports from post mortem exam-

inations made in the past, each case was diagnosed as eclampsia clinically because of the presence of a single symptom, convulsions. The pathologist in his reports has shown such a variation in pathologic changes, that one suspects that there must be different basic diseases to produce such variations. Had these cases been properly classified clinically after a review of all the symptoms of each individual case, there would have been greater uniformity in pathologic reports. Those cases in which characteristic hepatic and minor renal lesions were found, may be taken as true eclampsia. Those with major renal and minor hepatic lesions were probably renal eclampsia. In the future a more careful clinical diagnosis will probably co-ordinate a clearer pathologic picture from the pathologist. This can only be done by the obstetrician giving the pathologist complete, clear cut data of an individual case. Also a definite clinical diagnosis will help the pathologist to affirm or disprove the primary diagnosis. When the pathologist has completed his examination, a careful report by him is essential to check the clinical diagnosis. By following this procedure the cases of toxemia of late pregnancy will tend to be classified as true eclampsia or renal eclampsia.

Those cases which recover from true eclampsia show no clinical signs of impairment of vital organs or vascular changes.

THE CLINICAL COURSE OF TRUE AND RENAL ECLAMPSIA

In this paper the term eclampsia will be used to designate not only those cases which reach the stage in which convulsions occur, but also those cases which are of the same type of toxicity which have not reached the peak of toxicity in which convulsions and coma occur.

True eclampsia runs a typical clear cut course. During the first half of pregnancy the patient is normal with normal blood pressure, renal function and urinary excretion. During the second half of pregnancy there is a period of toxic increment which gradually passes to the toxic fastigium when convulsive seizures are apt to occur. Following this is a period of toxic decrement in which the toxemia rapidly disappears and the patient returns to normal health. One must keep in mind that the course of the disease usually covers a period of weeks and not merely the few days in which convulsions occur. The majority of eclamptics are seen by the medical attendant only at or near the crisis. So he does not visualize the disease as it should be with periods of pre-eclamptic advance and post eclamptic recession to the normal. There is a considerable

*(1.) Heinrichsdorf Zeitschr. f. Geb. u. Gyn. 1912, 1xx, 620-655.

** (1.) Bar at Guyeisse L'Obstetrique 1897 ii, 263.

*** (2.) Ingerslev Zeitschr. f. Geb. u. GYN 1881 VI 171,212.

variation in the degree of toxicity in different cases from the mild to the fulminating type. Rarely the toxemia develops rapidly in a short period of time and results fatally in spite of any treatment.

The blood pressure during the entire disease runs a course almost parallel with the toxicity. Before the onset of the toxic state the blood pressure is the average for the individual. As the toxicity increases so does the blood pressure. The highest pressure is reached at the peak of the disease when convulsions are apt to occur. The pressure drops rapidly after the peak is passed just as the toxicity disappears rapidly. After recovery the blood pressure again runs the same normal course for the individual that was present before the eclampsia began. So the clinician in a given case can make use of the sphygmomanometer to measure the degree of toxicity almost as he can measure the degree of fever in typhoid by means of a thermometer. One should know the normal blood pressure for an individual before the advent of the toxic state, so as to be able to judge the variation from the normal for the individual during the eclamptic state.

In the first half of pregnancy before the beginning of the toxic state the urine is normal. It may remain normal even in the pre-eclamptic state, though there are usually urinary changes as the toxicity reaches the fastigium. Nucleo albuminuria is usually a precursor to serum albuminuria. The amount of albumin excreted is usually not great. Casts appear as the toxicity increases; these, however, may be absent. The amount of urine excreted is usually about normal for the individual. The functional capacity of the kidneys becomes slightly decreased at the height of the disease.

There is not much alteration in the blood chemistry. During the peak of the disease there is usually a slight increase of non-proteid nitrogen. Acidosis is not present.

Edema is absent or present to a slight degree. When present it is usually most marked on the face. It usually involves only the skin.

Almost invariably subjective symptoms are present before the onset of convulsions. Epigastric and visual disturbances, headache, insomnia or somnolence and increased nervous irritability are present. It must be kept in mind that even severely toxic cases may be unaware of impending danger because they appear and feel well until the peak of toxicity is reached.

Renal eclampsia is divided into two classes which follow chronic interstitial and chronic parenchymatous nephritis.

Renal eclampsia may or may not follow a history of former nephritis. Not infrequently

renal injury has occurred in infancy following infectious diseases, or it has not been recognized, though present during a period of illness antedating pregnancy by years. During the first half of pregnancy in cases of renal eclampsia the result of interstitial nephritis, there is present high blood pressure, polyuria of low specific gravity, very slight albuminuria, rarely casts. The functional capacity of the kidney is decreased early in pregnancy and this becomes more marked as the toxicity increases. Nocturia is present usually. There is slight or no edema. As pregnancy advances especially during the last four months there is a considerable increase over the average high pressure for the individual. Systolic pressure commonly rises to between 200 and 300 m. m. After delivery the drop in pressure is not great and it continues the high average which was present before pregnancy occurred. Cardiac hypertrophy is always present. There is a tendency to cerebral hemorrhages as well as retinal hemorrhages and optic disc atrophy. There are apt to be continuous headaches. Blood examination usually shows increase of non-proteid nitrogen. Uric acid increases first, then urea and last creatinin just as in uremia. Before the onset of convulsions subjective signs, particularly amaurosis, give warning. These women frequently miscarry or give birth to premature stillbirths without convulsions. After delivery all the cardinal symptoms of chronic interstitial nephritis remain.

Renal eclampsia the result of chronic parenchymatous nephritis follows a different course from that which results from chronic interstitial nephritis. There is usually a history of previous nephritis of the tubular type. Before pregnancy commences there are typical symptoms of this condition in the severe cases. These are slightly increased blood pressure, pasty complexion, slight anaemia, slight edema, decrease in urinary output with casts and considerable albumin present. When renal damage is slight these symptoms are almost absent or too poorly developed to attract notice of the medical attendant.

The blood pressure at the beginning of pregnancy may be so little above normal as to deceive one as to the presence of renal damage present. The pressure runs a typical curve of toxicity as in true eclampsia with a return to the normal for the individual after recovery. The pressure does not rise so high as in the other forms of toxemia and at the peak it attains a level which is lower than that of true eclampsia and much lower than renal eclampsia of the glomerular type.

Edema is the most prominent symptom of this type. If not present at the beginning of

pregnancy, it appears during the first half of pregnancy. Usually it commences at the feet and gradually rises to the body. Edema of the face and hands develops as the condition advances. As the kidneys fail in functioning capacity anasarca develops and there is a tendency to development of serious effusions. Also edema of the lungs is apt to appear suddenly. After recovery there is gradual resorption of the fluid. During the stage of increment the retention of fluid in the body causes a great increase in weight. As recovery follows a loss of weight up to 60 or 70 pounds results. Always abnormal urinary symptoms are present at the beginning of pregnancy. Serum albumin is found in varying quantities from a trace to very heavy deposit. As renal insufficiency develops the percentage of albumin greatly increases. As edema develops there is a decreased output of urine. Casts are present in considerable quantity. At the stage of greatest insufficiency, red blood cells are usually found in the urine. Phenol sulphone phthalein tests indicate very low renal functioning capacity.

Albuminuric retinitis is present in marked cases.

There is a tendency for pregnancy to end prematurely and the severer cases have series of premature stillbirths.

Recovery after termination of pregnancy leaves the patient with characteristic symptoms of parenchymatous nephritis.

It is not always possible to distinguish the two types of renal eclampsia. Just as in the non pregnant there may be involvement of both tubules and glomeruli which result in a clinical picture which can be diagnosed as nephritis, but which cannot be differentiated clearly as tubular or glomerular because both portions of the kidney are involved.

DIAGNOSIS

It is difficult to differentiate most of the cases of true eclampsia from renal eclampsia because they come under the observation of the obstetrician when at the height of the disease.

Even at this time the interstitial type can often be diagnosed by the very high blood pressure, cardiac hypertrophy, absence of edema, polyuria with low specific gravity and little albumin and few casts. Vascular changes and hemorrhagic tendency are marked. So also the marked cases of parenchymatous nephritis can often be diagnosed by comparatively low blood pressure, severe general edema, pasty complexion, reduced urinary output with high percentage of albumin, many casts and low renal function.

A history of chronic nephritis is val-

uable when obtained. The majority of renal eclamptics are unaware of impaired kidneys. When a history of chronic nephritis can be obtained true eclampsia can be ruled out. Multiparity indicates renal eclampsia, not true, as true eclampsia is present only in primiparous women and immunity is produced by one attack.

A history of previous premature stillbirths is indicative of nephritis when syphilis is ruled out. Low functional capacity of the kidneys usually is present in renal eclampsia. Also greatly decreased excretion of urine or suppression mean nephritis. After delivery a diagnosis of renal eclampsia can be made by demonstrating the characteristic symptoms of nephritis. Though the type may not be demonstrated, at least the marks of chronic renal damage can be clearly shown.

True eclampsia is not difficult to diagnose if one is able to follow the case from the beginning of pregnancy through labor and puerperium. The development of the toxic state during pregnancy and the recession to normal after delivery is so characteristic as to diagnose itself. The most important guide is the blood pressure which follows the course of toxicity from increment to fastigium, through decrement to normalcy, renal functional capacity is higher than in renal eclampsia. Urinary abnormalities may be absent; when present they follow the development of toxicity. The subjective signs appear at the peak of toxicity. After delivery or after the peak of toxicity has been passed, all the toxic symptoms rapidly disappear.

PROGNOSIS

True eclampsia is difficult to prevent. The milder type can be controlled to a sufficient degree to prevent convulsions. The fulminating type is usually fatal regardless of the care given. The prognosis is always better for those under proper supervision during pregnancy as the attendant can read the warning signals and so be prepared to act as occasion requires, quickly and decisively. The majority of cases of true eclampsia can be controlled when properly supervised. Prognosis is always graver when convulsions and coma develop. Those recovering from convulsive seizures return to normal physical condition without impairment of vascular or renal function. Future pregnancies are not subject to eclamptic toxemia and should terminate favorably for mother and child. The fetal prognosis is grave even when convulsions do not occur; after the onset of convulsions the danger of fetal death increases. Rapid, easy delivery, as by section, gives the most favorable chance for the fetus.

The interstitial type of renal eclampsia can

be controlled to a considerable degree. Proper prenatal care will prevent most convulsive seizures and almost eliminate maternal mortality. The fetal mortality will always be high as there is a tendency to prematurity of the fetus which is often macerated. Neglected cases are not only prone to convulsive seizures but also tend to suffer from cerebral and ocular hemorrhages when the blood pressure is highest. This tends to result in permanent plegias after recovery. Future pregnancies are apt to result in renal eclampsia, and feti are apt to be premature and stillborn.

In properly controlled cases of parenchymatous type of renal eclampsia the prognosis for the fetus is best. There is a tendency to premature delivery but the fetus is usually viable. Except in the very severe cases the prognosis for maternal recovery is good. Very few of the properly attended cases should terminate in convulsions. Also proper care during pregnancy tends to prevent further renal damage while neglect during this period permits further renal degeneration. This type is apt not only to develop severe edema but frequently causes severe serious effusions to form. There is also liability to result in edema of the lungs. There is always the probability of renal eclampsia developing in subsequent pregnancies. The prognosis for infantile survival in subsequent pregnancies is poor because of the tendency to prematurity and maceration.

TREATMENT

Individualization must be the Shibboleth in the care of all toxic cases in late pregnancy. As soon as possible the type of toxicity of the individual should be classified. Then the care of each case follows naturally along the lines of prophylaxis.

The cases of renal toxicity can often be controlled by elimination, suitable diet and rest in bed.

The interstitial type of renal eclampsia may require venesection at intervals to relieve the excessive vascular hypertension. Exclusion of proteids from the diet is necessary to reduce the nitrogen retention in the blood. In the graver cases one can limit the intake of nourishment to cream and water for a considerable period, as suggested by Von Noorden.

The parenchymatous type of renal toxemia requires proper diet and good elimination. Saline cathartics and dermal elimination of water by means of bakes is effective. Regulation of intake of fluids and table salt is necessary. Venesection is less often required than in the other type and must be carefully supervised as the anemia present may contra indicate a considerable loss of blood.

In the true eclamptic toxemia careful observation is essential as the fastigium approaches. Restricted diet and proper elimination must be supervised. Rest in bed is necessary. Venesection repeated as indicated by the height of blood pressure may be deciding factor in the prevention of development of the fastigium which carries with it the possibilities of convulsions and coma. The best results for mother and child in the fulminating type follow cesarotomy when the fetus is viable.

DISCUSSION

DR. JACOB R. RUPP, Detroit: The fact that there are two different kinds of eclampsia has been brought out. I believe that both of these types run a very high acid urine and by seeing them early you see the blood pressure go up from week to week. If the patient is instructed how to keep the urine alkaline the pressure will go down. In one case with a pressure of 240 we started with soda enemas, sodium bicarbonate, and found that it took about three times as much in this case to change to a normal urine. The response, however, was very satisfactory. Not long ago I saw the medical management of eclampsia brought out in an article, in place of the surgical management, and thought it was very nicely brought out how in the majority of these cases there is a severe toxemia and acidosis, which is greatly improved by alkalinizing the patient. There are some proprietary articles on the market that are very useful in cases where it is impossible to get the patient to take sufficient soda bicarbonate.

DR. W. E. WELZ, Detroit, (closing): The purpose of the paper was not to bring out any line of treatment, but more to encourage better effort at diagnosis. That is brought to mind as one sees definite, clear-cut cases of nephritis constantly being treated as eclampsia, which is absolutely wrong. My belief is that the great majority of cases that go to the convulsive stage are not eclamptic but nephritic. I have constantly under my care a number of cases of definite nephritis. We cannot improve the treatment until we know what we are treating. I have seen cases in which the patient died in a three months pregnancy, with a small, contracted kidney shown on the autopsy table. The patient had a cerebral hemorrhage as the result of nephritis and to have such a case reported as eclampsia is absurd.

The most important thing is to properly diagnose the cases and then individualize the patients, not follow any one definite method. I think the medical treatment is infinitely better than the surgical.

As to the alkalinity of the blood, it has been shown by Slemons and others that the blood is practically normal.

Also, when we take up the question of whether they have acidosis as the result of nephritis, or the result of the toxic condition, it is an absolutely different condition in each instance, and we cannot handle the two as one.

ACUTE COMPLETE INVERSION OF THE UTERUS*

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One of the rare complications incident to the delivery of a pregnant woman is acute complete

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inversion of the uterus. It is given comparatively little attention in the literature and most of us give it but slight consideration until we are so unfortunate as to have the condition to deal with. Being one of the gravest complications of parturition, it is indeed fortunate that it is one of the rare ones. It seems impossible to form an accurate estimate of its frequency because the various statistical tables show such marked discrepancies.

Several months ago I sent out a questionnaire to a number of the larger obstetrical clinics throughout the United States and to a number of physicians doing a large private obstetrical practice, asking for data on cases of recent date. In this letter I asked for percentage of occurrence, probable etiological factors, method of reduction and mortality. After reviewing the literature on the subject and after reviewing the answers received from my questionnaire, I am convinced that inversion is becoming more frequent.

Thorn made an exhaustive study of 627 inversions of the uterus collected from the world's literature from 1887 to 1909 and says in reviewing the articles, that the occurrence is between one in one hundred ninety thousand to one in four hundred thousand. Carruthers says, from one in one hundred eighty thousand to one in two hundred thousand, in his article reviewing the older statistics. More recently we find these figures somewhat changed. Dr. Manton in his article on "Inversion of the Uterus", published in the *New York Medical Journal*, October 1921, mentions some 778,000 cases from different maternity hospitals, including recent cases, and there were six reported inversions. This would bring the percentage down to almost one in 110,000 deliveries. Dr. Yates, in 1920, found that in a total of over 22,000 cases delivered in four Detroit hospitals, there was one acute inversion. Since that time, in those four hospitals, with a total of about 5,000 more deliveries, there have been three cases on inversion. In the reports which I have received from different clinics and different men over the country of cases occurring in recent years, I find the average is much higher than those in earlier reports, being approximately one in 70,000 cases.

ETIOLOGY

We have much to learn as to the etiology. The two common causes given in most text books being, "too great pressure on the uterus from above and too great traction on the cord." Stark reports one case of acute inversion due to a tumor attached to the inner surface of the uterus at the fundal extremity. Carruthers sums up his two cases saying he believes they

were due to atony of the uterine wall. McAfee reports one case which he attended, arriving after the baby was born. No one but the nurse was present at the time of delivery and she had not touched the cord or abdomen. The placenta was adherent. He calls our attention to the interesting fact that many cases have occurred among the colored races such as the Kaffirs in whom parturition is affected in the squatting position.

I was greatly interested in the answers I received to the question of probable etiological factors. A number were inclined to place the blame on the assistant in using too great pressure on the fundus when the uterus was not contracted. Several suggested that the cord was very short and although the case was handled the same as others, they took it for granted that too great traction was used on the cord. One woman delivered herself while standing and it was supposed that the pull on the cord caused the inversion. These are no doubt often exciting causes and yet one has to explain why one case will develop an inversion and thousands of other cases do not when the same technic is used on all.

Undoubtedly one of the important predisposing causes is to be found in the fundal attachment of the placenta, as first suggested by Thorn. He believes, however, that too great emphasis has been given to errors in the conduct of labor, and that if undue pressure from above on a relaxed uterus, or too great traction on the cord were of greatest importance, then we would hear of many more cases than we do. If the figures I have collected are of any value, they show that the condition is not becoming less frequent, but the reverse, even with our continued improvement of obstetrical technic.

Inversion has occurred twice in subsequent labors in the same patient when all precautions were taken to prevent the recurrence. Carruthers reports two instances seen in the same woman in consecutive labors. This would lead us to think that in some cases there was a special predisposition. The suggestion made by Bartholomew in 1915 that it is "important to make special investigation of some possible pathological structure of the uterus whenever such a specimen can be obtained in cases that come to autopsy," is a good one. I have not been able to find where any such work has been done to date, but think it will open a good field for investigation.

Scott, in a recent article published in the *American Journal of Obstetrics and Gynecology*, reviewed the work that had been done to determine the cause of hemorrhage from the non-pregnant uterus in the absence of a neoplasm. This article tells of the work that has

been and is being done in careful study histologically, of many uteri and of the changes found in the endometrium and musculature. If such changes are found at times in the musculature of the uterus, is it not reasonable to suppose that certain uteri have a peculiar structure which is the predisposing cause of, or at least is an important etiological factor in, inversion of the uterus?

DIAGNOSIS

The diagnosis of acute complete inversion is not difficult and although the process of inversion is complete in most cases in a few seconds, yet there is the one subjective symptom of pain, we cannot but notice. In the case which I wish to report, the patient was under ether anaesthesia and yet she made several sharp cries as if in great agony. In the cases of mild sub-acute and incomplete inversion this symptom is not often present, but I will not go into the discussion of such cases in this paper. The second symptom is that of shock, which is out of all proportion to the amount of blood lost. The pulse becomes small and quick and some writers attribute the collapse to the reduction of pressure in the abdomen. This hardly seems a good explanation as we do not see such a collapse when a case of ascites is tapped or a large ovarian tumor is removed. It has also been suggested by Herman that it is due to strangulation of the uterus and sudden exposure of so large a sensitive surface as the interior of the uterus.

In earlier years about three out of every four cases died. More recently most writers give the figures as one out of four. The latter set of figures agree more closely to the reports I received on mortality. In this series I have included all deaths whether occurring early from hemorrhage or shock, or later from hemorrhage any time during the lying-in period, or finally from sepsis.

TREATMENT

As mentioned before, we have not made much progress in proving that certain individuals have a special predisposition towards inversion so there is probably nothing new to offer regarding prophylaxis. The importance of avoiding the different factors brought out under etiology is self evident. Also of great importance is the recognition of the beginning of an inversion. This practically always starts in the fundus, and with one's hand on the fundus any peculiarity or irregularity of contour can be noted. When such a condition is recognized, surely one is justified in immediately doing a manual removal of the placenta.

I find there is still a great difference of opinion as to the best treatment. The treat-

ment advised by Herman in his early edition of "Difficult Labor" was to replace the uterus at once. Oldfield, in the revised edition of a recent date, does not agree with this procedure. Most text books advise an early replacement of the uterus, while Zangermeister advised treating the shock and hemorrhage first, and then any time from one to twenty-four hours, replacing the uterus. Undoubtedly, however, the deduction made by several after the study of statistics covering large numbers of cases show that there is a higher percentage of failures of reposition and death from those undertaken one to twenty-four hours after delivery than those done immediately. It is impossible to say what is the best method of treatment for all cases. If shock is severe, replacement must be postponed and the shock must be treated by the usual measures. It has been noted that in cases of severe shock, reinversion causes more shock and may result in immediate death.

I wish to consider the treatment under two separate headings, first, when shock is severe and second, when it is not severe. In the severe type, remove the placenta if it is attached and gently press the uterus into the vagina and stop the hemorrhage. The latter can be done by using a hot saline douche, giving one half to one cc. of pituitrin and if necessary by constricting the uterus just below the cervix with a piece of sterile rubber tubing. With the hemorrhage stopped and the usual treatment given for shock and when the patient has sufficiently rallied, replacement should be attempted. Deep ether anaesthesia should be used and the lithotomy position is helpful. The left hand is placed over the lower abdomen while the right hand is passed into the vagina behind the uterus, grasping it and gently pushing upwards and forward toward the left hand. Pressure is kept up for ten to twenty minutes if necessary. Cases are reported where these maneuvers are not successful and then it is best to either try packing the vagina or using a bag or repositor. Failing in these, it becomes a gynecological procedure, the technic of which is fully described in an article by Dr. Peterson in *Surgery Gynecology and Obstetrics*, August, 1907.

Second, when the case does not show great shock it should certainly be replaced at once if possible. There are several points of procedure used in the case to be reported not noted in any previous article and although the difference of technic may be of minor importance, yet I believe they had something to do with the ease of replacement and almost normal convalescence. I will include a description of these in the reported case which follows:

CASE REPORT

Mrs. S., Age 34. Primipara—Rather tall, slight build. Physical condition good. Had first period at age of twelve years. Had always been regular and flow lasted from three to five days. Since periods were established had no pain. Family history negative. She had never had any serious illness excepting a fistula 11 years previous to pregnancy, which was successfully operated. At this time she had two small cysts removed from ovary. She did not experience any nausea or vomiting during pregnancy. Urine was negative throughout. Wasserman negative, and blood pressure ranged from 110 systolic, 68 diastolic, to 118 systolic and 70 diastolic. Pelvic measurements were normal. The third month she developed a moderate jaundice with temperature of 102. Temperature kept up for one week and jaundice gradually disappeared. With this the patient had quite a severe cough and tenderness over lower abdomen. As life was noted and motion increased, abdominal soreness continued and she was never free from it until the baby was born.

Patient entered hospital 3:30 a. m. July 31, 1921. Pains every ten to twenty minutes—membranes had ruptured at 8 p. m. and flow of fluid had been gradual. Rectal examination was made and the head was in the pelvis, cervix was soft and dilatation was three fingers. At 5 a. m. dilatation was complete and there was rectal bulging. She was taken to case room, placed under obstetrical degree of ether anaesthesia, and a seven-pound two ounce baby was delivered without laceration. One-half CC of pituitrin was given. After waiting about twenty minutes, moderate crede was done by the assistant while I held the cord, using no more pressure than in any other case. Crede was used only when uterus was contracting. The placenta was delivered and was attached to the completely inverted uterus. The patient was not out from under the anaesthesia and as the placenta was delivered she gave several sharp cries from pain. As I noted that the mass was too large for placenta alone and was thick at the vulva, the assistant remarked that he could not find the fundus. The cord was an average length. The patient had a moderate pallor and the pulse was 120 per minute. The bleeding was only moderate and the uterus did not noticeably increase in size.

Hot packs were at once applied over the placenta and uterus and with as little exposure as possible the membranes were separated. By firmly grasping the body of the uterus with the fingers of the right hand it was pushed into the vagina as far as possible. Then with the thumb and index finger pressure was put on the side of the fundus. This portion of the inverted uterus began easily to invaginate and with a steady increased pressure with the fingers the whole uterus gradually invaginated and slipped through the cervix. The closed fist followed the fundus back into the pelvis so that the fundus could be grasped with the left hand through the abdominal wall and was held in this position while one-half CC of pituitrin was given and followed by one CC of ergot. Then 300 CC of normal saline was given in the breast tissue. During the above manipulation the pulse remained at 120 and was a good quality. As the uterus began to contract, the hand was carefully withdrawn and a plain gauze pack was inserted into the uterus. Patient was removed to her bed in twenty minutes with pulse 100 and good quality. The next morning at 11 a. m. patient was in good condition, pulse 100, moderate lochia. Packing was removed. Blood pressure 110 systolic, 70 diastolic. For ten days tenderness was only slightly more than normal over

abdomen. Highest temperature was 98.6. Pulse gradually decreased from 100 on second day to 72 on the 13th day when discharged.

I have examined the patient at intervals since the delivery. The pelvic organs regained their normal condition in the usual length of time and the patient has been enjoying excellent health. She nursed the baby for seven months and at the present time says she weighs more and is in better physical condition than she has ever been in her life.

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DISCUSSION

DR. REUBEN PETERSON, Ann Arbor: The subject of complete inversion of the uterus is always interesting. I do not know that I have got any further along in the etiology during the last twenty-five or thirty years. However, one thing the doctor brought out in his paper seems to me significant. He said that from his research he is convinced that acute inversion of the uterus is more prevalent than formerly. This surely cannot be ascribed to lack of information on the part of the physician as to the cause of inversion. I think most men understand that if the cord be pulled upon under some circumstances inversion may take place. As I say, I think the profession is pretty well convinced of this etiological factor. It occurs to me that if inversion of the uterus be on the increase it is possible that the use of pituitrin may explain it somewhat. I am convinced from my own observations in obstetrics that we do not know as much as we should of the true effects of pituitrin. I think that even when the cervix has been dilated and there seems to be no contra-indication to the use of pituitrin, it has such an effect upon the uterus that we must regard it as a possible factor in such an accident as this. That can only be worked out, I presume, by finding out how many such cases there are in which it had been used, and judging from that standpoint. So far as the treatment of the condition is concerned, one can not take exception to the method pursued by the essayist. The only contra-indication to the replacement of the uterus is profound shock and bleeding. Under these conditions I think we have to refrain until the patient has more or less recovered from her shock. We have had only one acute inversion in several thousand cases, and in that the uterus was replaced according to the method described by the essayist, and the woman recovered. However, the pulse was much more rapid than in his patient and she was in a very serious condition, although she did not suffer much from hemorrhage.

I have another to report, a very remarkable case that occurred recently in the University Clinic. A woman was brought in with an inversion of the

uterus which occurred some weeks prior to her entrance. She had lost a good deal of blood and her condition was not good. Consequently, we thought it advisable to do an operation for chronic inversion of the uterus and packed the vagina around the inverted uterus so that she might have a chance to make up some of the lost blood. This was done by my interne and the day set for the operation. He only packed lightly, according to my directions, around the uterus, enough to control the bleeding. The patient was brought into the operating room and because I have had some experience with chronic inversion of the uterus I was very much afraid of fresh bleeding. The preparations for operation went on and I watched my interne as he pressed upon the perineum, so that he would not scrub too violently upon the inverted fundus and, much to our surprise, there was no fundus there. This light packing had resulted in complete restoration of the inverted uterus. Some cases are reported in the literature, where the uterus practically replaces itself. If that be true we have to go far to explain why the action occurs in the first place. This case was as complete as any I have ever seen, and yet the cervix relaxed and the fundus went into place.

It seems to me this subject is worthy of serious study. It does not happen often, but it certainly is a serious complication when it does occur, and I think the section should thank Dr. Haynes for bringing the subject up for discussion.

DR. H. WELLINGTON YATES, Detroit: I have not much to add to this paper, but it seems to me something could be said about the causation of this in relation to the series of facts which Dr. Haynes arrived at in regard to its frequency, which tally very well with some figures I quoted two or three years ago in preparation of a paper. I am wondering whether the more practical observation of this anomaly has been the result, in later years, of the more frequent reporting of cases by individual physicians. Societies have increased in number and in their specialties, and in that proportion I suspect that many papers by individuals not connected with large clinics, from which the data Dr. Haynes has quoted have been taken, have been presented. For instance, as I recall just now, in Moscow one of the quotations there was something like 1 to 200,000, and so on down, but these series were reported from large clinics, clinics that were under the supervision of trained men, and I suspect the extra frequency of this occurrence is because more cases are reported by people not trained to their highest efficiency.

As to causation, we are very much in the dark. We cannot say whether pituitrin definitely is a factor here. It does not have the same action, of course, as ergot, and yet it is much like it. In the many years before giving up ergot we had not noticed this more common occurrence of the trouble.

I think there is a well justified cause, that it may be due to faulty expression of the placenta. A good many men use the so-called Crede expression of the placenta, but instead of expressing it as Crede recommended, they express it from above down and so I rather think that in a good many instances men not efficiently trained have not used a real Crede at all and instead of expressing it antero-posteriorly and making pressure from the anterior as well as from the fundus of the uterus, they have expressed it from above downward.

This does not explain the fact that we may have spontaneous inversion, not having been preceded by either ergot, pituitrin, or any other expression. There are instances, one of which I know, in

which the placenta was expelled and inversion took place spontaneously, for all of which there is no explanation in anything we know now. I think all who have seen cases of inversion are impressed with what the essayist has said concerning the marked degree of shock which accompanies it, out of proportion perhaps to the amount of hemorrhage which takes place, so we cannot say that the shock is the result of hemorrhage.

Dr. Haynes spoke of the question of reducing it in a way that is proper and common, and then of having packed this and removed it the next day. In the two or three acute cases I have seen, instead of removing the packing all at one time we packed the gauze well up into the fundus, completely packing the uterus, and then at perhaps twelve-hour intervals would withdraw certain portions of the gauze, not leaving the uterus entirely empty at any one time, until the last was removed.

DR. JOHN N. BELL, Detroit: I have had very little experience in this, having seen only two cases, one in the acute form. The other was a late condition, occurring two weeks after the baby was born. My acute case was the ordinary type and I had no difficulty at all in reducing it by the invagination method, the pointed finger invagination.

Regarding the etiology, I think there is nothing particularly mysterious about why this happens.

I have always felt and still believe that the condition is one where you have a thin uterine wall where the afterbirth is attached, and in the process of expelling the placenta perhaps a little undue force may have been used, or a little undue traction on the cord—anything that will start invagination, and perhaps a little carelessness in not watching the fundus for a sufficient time afterwards.

My theory of the uterine wall being unusually thin is substantiated in this late case in which I operated and in which the reduction could not be brought about in the usual method, and I was forced to operate by making an incision through the posterior wall, along and almost up to the fundus before I could invert the uterus and get it back. I noticed that the uterine wall was much thinner than I expected to find it, and I was much surprised. That substantiated my idea and shows that in these cases the uterine wall is unusually thin and produces the invagination.

DR. R. CRON, Ann Arbor: It has been my experience to have one case with acute inversion. This woman was delivered by a midwife and her story was that the midwife used traction on the cord with the true Crede, with immediate inversion following that procedure. The patient evidently went into shock, because of the fact that when she entered the hospital she was definitely burned because of the midwife having thrown hot water on her to revive her. She came in with complete inversion, with the placenta removed. At the time of entrance she had recovered from her shock. She was examined and we found that the uterus was completely inverted outside of the vagina. The pulse was slightly above 100 and in comparatively poor condition. Being in charge at the time, I went ahead and reduced the complete inversion by the treatment outlined by Dr. Haynes and the patient proceeded to go into very profound collapse, so much so that she was pulseless at the radial and temporal. She had not lost any blood—it was just a plain every day shock. About the time the transfusion outfit was ready and a donor was supplied, the only evidence of life could be obtained by listening to her heart with a stethoscope. She was immediately transfused by the citrate method and it was miraculous to see how she recovered. The uterus was then reduced and she recovered

from the whole affair and went home well within a short time.

The point I wish to bring out is that you can have a second shock when you attempt to reduce the uterus, even after primary inversion.

DR. H. WELLINGTON YATES, Detroit: May I ask the experience of anyone who has adopted this, whether it has any connection with others or not? This question of shock in my case was not evidenced by anything I attempted to do, but we inverted the patient to the extreme Trendelenberg so that her cerebral centers were receiving the whole supply of blood. We got her under deep narcotics with gas oxygen and there seemed to be no additional shock. Immediately upon the reinversion, or replacement, the patient assumed an entirely different attitude, that is to say the return to its proper position seemed the whole thing.

I wonder whether the extreme Trendelenberg, coupled with gas oxygen anaesthesia, would not be good practice even when these patients are in extreme shock. I am not convinced, but just ask this question.

DR. L. W. HAYNES, Detroit, (closing): The paper is hardly complete, in that this patient has had a miscarriage since it was written a few weeks ago. She was seven weeks pregnant and sharp pains started when she was working in her kitchen, followed by hemorrhage which lasted twelve hours and then she delivered this seven weeks pregnancy.

As to the use of pituitrin, I was interested in what Dr. Peterson said—that perhaps there is some connection between the more general use of pituitrin during the last few years and the more frequent reports of inversion. Personally, I have used pituitrin in every case delivered in the last year, since Dr. Cron read his paper at the meeting last year, using $\frac{1}{2}$ CC immediately upon delivery of the baby, and I have been greatly pleased with the results. Outside of this one case which developed inversion the rest have been satisfactory and I have not had to do any vigorous Crede operations on any placenta since I have used this method. I have not had to inject the veins of the placenta with saline, as I had to do before, and I am sure it has cut down at least one-third of the time in delivery of the placenta. I have been much pleased in using it after delivering the baby.

Dr. Yates' suggestion that we are perhaps receiving more reports of this condition is probably true.

The idea has gradually developed that obstetrical patients should be delivered in the hospital more and more, and probably this would explain some change in the reported number of cases.

Also, Dr. Yates' suggestion in regard to removing the packing is certainly very good. I know I felt anxious all the time I was taking out the uterine packing at the end of twenty-four hours, and believe the suggestion of removing a little at a time is very good.

The paper was primarily written for the purpose of stimulating more work along this line and I am delighted to hear Dr. Bell tell of the case in which he was able to examine the uterus closely. In all the reports I received no information of work being done upon the uterus.

The thing I would like to impress upon the members of the section is that if they have a case that comes to autopsy there should be some histological work done on the fibers of the uterus to see if it holds true in all the cases that there is thinning of the tissue. The position in my case was left occiput anterior, with nothing unusual about it.

RADIUM TREATMENT IN CANCER OF THE CERVIX*

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WM. R. CLINTON, M. D.
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From the records of many large hospitals and also from the experience of many surgeons, carcinoma of the uterus is apparently on the increase. From our own experience it seems that the degree of malignancy has increased and operability has decreased.

There are a number of factors which must be considered before undertaking an operation on cancer of the uterus.

1. A careful detailed history of the time of onset, character and duration of the discharge and bleeding.

2. The subjective symptom of pelvic pain with severe backache frequently means metastases along the iliac and lumbar glands or metastases in pelvic bones or spine. X-ray plates should be made as a routine before performing operation.

3. Thorough general examination a bimanual examination to determine:

- (a) Induration or ulcer or tumor.
- (b) Extent of involvement.
- (c) Fixation, a fixed carcinomatous uterus is inoperable.
- (d) A digital rectal examination is always advisable. If there is any involvement of the recto-vaginal septum, or fixation of the rectal mucosa, or if we can palpate sacral nodes the case is always inoperable.
- (e) Examination with specula to inspect type of growth or induration, appearance of surface, extent of ulceration of mucosa.

4. Complete blood and urine examinations should be made. Severe secondary anemia and local secondary infection or both are very common in advanced cases.

If, after careful examination we find that the case in hand is operable we advise treatment as follows: Pre-operative X-ray treatment to pelvic, iliac lumbar glands and hypochondriac regions, both anterior and posterior exposures and radium locally. Administration of alkalis. Two or three weeks later, laparotomy, examination of liver, lumbar and iliac glands and if negative for metastases proceed with pan-hysterectomy. The patient is given deep X-ray therapy, one month following operation, and the deep therapy is repeated in three months.

If we classify the case as a borderline one, we may use either radium and X-ray alone or

*Read at 57th annual meeting M. S. M. S., Flint, 1922.

combine these as a pre-operative measure and then in four or five weeks perform pan-hysterectomy as above.

1. Our radium technique is as follows:

Preparation of the patient, the same as for operation. Gas anesthesia, we remove a specimen for pathological diagnosis and cauterize the site from which specimen was taken, introduce a 50 mgm. radium applicator into the uterine canal and imbed 2 to 5-10 mgm. needles in tumor mass and the time of exposure varies with the severity of disease from 12 to 24 hours. In the large cauliflower or crater ulceration we usually give a second exposure, 24 to 48 hours later of 50 to 100 mgm. radium for 8 to 24 hours. Therefore, these cases get from 1200 to 3600 mgm. hours of exposure to the radium.

2. We have noted that a few cases we have classed at first as inoperable, after Radium and the X-ray therapy, become operable, and we then proceed with hysterectomy, although some of the cases on whom we had planned to operate later showed such marked improvement that we decided against hysterectomy or any other operation.

In the definitely inoperable cases we proceed as above, and attempt to give these patients as large doses of Radium and X-ray as they will stand. We usually have them report for examination every six weeks to two months and we may again give them Radium although we believe it better to give the full Radium dose during the first week of treatment, followed by the Roentgen Therapy. Our reason for this is that after the fibrosis has taken place, intensive Radium treatment may cause stimulation of dormant cancer cells elsewhere, or break down the fibrous barrier or cause vesical or rectal fistulae.

If there is any question regarding the feasibility of performing a radical operation, or if metastases are present we do not attempt operation but treat these cases with Radium and X-ray.

Histological changes due to Radium.

Radium has apparently a selective action on the cancer cell and is about ten times more lethal to the cancer cell than to the normal cell. Sections taken from the site of radiation after Radium show destruction of cell nuclei and fibrosis. These changes vary with the dose, screen and tissue, also with the type of cancer. On account of these changes it may be safer to treat our patients with one heavy dose of Radium, primarily and use the X-ray for all subsequent treatments, on account of the possible danger of introducing Radium needles in tissue which is apparently normal, but in which are lying dormant cancer cells.

Statistics—Kelly and Burnham—213 cases.

Operable, 14; inoperable, 199.

Operation and radium, 10.

Radium alone, 203.

Fifty-seven clinically cured, divided as follows:

1—Six years.

3—Over 4 years.

4—Over 3 years.

29—Over 1 year.

15—Over 6 months.

109—Case markedly improved.

37—Not improved.

In 75 per cent of all cases with operation in advanced, there is recurrence and that 60 per cent of these recurrences take place within one year following operation.

H. Cheron and Rubens-Duval treated 158 cases of primary and recurrent inoperable uterine and vaginal cancer, in 155 cases there was improvement that was anatomically verified. In 93 cases the improvement was marked. 46 cases there was probably a definite cure, in 2 cases no appreciable good effect.

CASE REPORTS FOR FOUR TYPICAL CASES

Case No. 1.—Mrs. Y., age 40. April 8, 1920.

Complaint—Blood streaked leucorrhea for the past six months. Also menorrhagia for the past two months.

Family History—Father died at 59, carcinoma of the rectum. Otherwise negative.

Past and Personal History—Usual diseases of childhood. Otherwise always in good health. Married 14 years, never pregnant.

April 9th, vaginal examination showed that the posterior lip of the cervix had been ulcerated, and with the typical appearance of a cauliflower growth. Uterus fixed, and vaginal vault infiltrated. Specimen removed for pathological examination. Seventy-five MMS Radium screened with 1 MM brass, 2 MM rubber inserted into uterine canal, remained twenty-four hours. 1,800 MM hours.

Pathological Diagnosis—Advanced squamous celled carcinoma of cervix.

July 27, 1920—Patient has had three deep X-Ray treatments, three weeks apart, also X-Ray examination of the pelvis and spine, which was negative for metastases. Patient has gained 10 pounds in weight. Discharge practically stopped, no bleeding. On vaginal examination the cervix was smooth and glazed, and there was no evidence of malignancy. Fifty mgms. Radium, screened as before, inserted into uterine canal, and left in situ for 24 hours. 1,200 mgm. hours.

October 20, 1920—Patient has gained 10 pounds more, no discharge, no bleeding, general condition very good. Vaginal examination shows cervix smooth, no evidence of previous trouble.

February 15, 1921—Condition good. No symptoms, no evidence of any pathology by vaginal examination.

May 10, 1921—Patient feels fine, local and general condition very good.

September 10, 1921 and January 5, 1922—Patient in good condition, apparently cured. Advised to return in four months for further examination.

May 20, 1922—Patient examined, apparently well and is doing all her own house work.

Case No. 2.—Mrs. D., age 60.

Complaint—Loss of weight, backache, leucorrhea, and irregular vaginal bleeding for the past two months, with constant bleeding for the past two weeks.

Past and Personal History—Eight children living and well. No family history of malignancy. Patient has always been in good health, hard working farmer's wife.

August 11, 1921—Vaginal examination under gas anesthesia. Ulcerating growth on posterior lip of cervix, pathological examination advanced squamous cancer of cervix with induration of posterior vaginal wall, specimen removed, 50 mgms. Radium inserted into uterine canal, with usual screening, remained in place 24 hours. 1200 mgm. hours.

August 26, 1921—5-10 mgm. needles inserted into posterior lip of cervix, remained 8 hours. 400 mgm. hours. Condition much improved.

October 10, 1921—5-10 mgm. needles inserted into posterior lip of cervix for 12 hours. 600 mgm. hours. No evidence of any ulceration, induration of vault, much less. Patient's symptoms gone, general condition very good.

December 10, 1921—Patient examined carefully, cervix smooth, no area of induration or ulceration.

February 15, 1922—No clinical evidence of previous trouble. General condition very good. Advised to return in four months for further examination.

Pathological Diagnosis—Squamous called carcinoma of cervix.

Case No. 3.—Mrs. R., age 60.

Complaint—Foul discharge and bleeding 8 months' duration. Examination September 29, 1921 revealed that the cervix was practically absent. Induration with fixation of anterior, posterior, and lateral vaginal walls. Small amount of cervical tissue present, which was very friable. Typical of carcinoma. Specimen removed for examination. 50 mgms. Radium inserted into uterine canal. 3-10 mgm. needles embedded in remnant of cervix 24 hour exposure. 1920 mgm. hours. Path. Diag.: Sq. celled carcinoma of cervix.

November 11, 1921—Patient reported for examination. General health much improved. Gained 20 pounds in weight. Local examination, the remnant of cervix smooth, small dimple in the region of cervical os. Induration of vaginal vault much less.

November 16, 1921—1-10 mgm. Radium needle, inserted into cervical os, 2 embedded in remnant of cervix. 8 hours. 240 mgm. hours.

February 5, 1922—General and local condition much improved, no further radiation advised.

April 20, 1922. Upon careful examination we are unable to detect any signs of former carcinoma, patient advised to return in four months for examination.

Case No. 4.—Mrs. N., age 34.

Complaint—Watery irritating discharge, with metorrhagia and menorrhagia for the past month.

Family History—Negative for malignancy.

Past and Personal History—Patient has always been in good health, married 10 years, no children.

General examination—Slender woman, weighing about 120 pounds. Vaginal examination reveals a soft ulcerating, bleeding tumor, extending from the external os, provisional diagnosis of carcinoma, patient sent to hospital for pathological diagnosis, and radium treatment.

July 12, 1920—D. and C. done under gas anesthesia, specimen sent to laboratory, pathological report, advanced squamous celled carcinoma. 50 mgm. Radium inserted into uterine canal, usual screening. 24 hour exposure. 1200 mgm. hours.

September 14, 1920—General condition much improved, practically no discharge, no bleeding. Vaginal examination shows, cervix smooth with a slight ulcerated area, along the cervical canal. 50 mgm. Radium, inserted into cervical canal for 24 hours, patient advised to have deep X-Ray treat-

ments over iliac and sacral glands every three weeks.

November 2, 1920—Patient much improved, no bleeding or discharge. Ulceration healed, surface smooth. Advised to return in two months.

January 13, 1921—Patient has no symptoms, and is apparently cured.

Examinations May 6, June 15, September 20, 1921, all reveal the patient in very good condition.

December 2, 1921—Patient in bed complaining of pain and swelling in left leg. Tenderness on pressure, elevation of leg, and prescription of salicilate was given patient.

December 9, 1921—Patient suffering intensely with pain and cramps in left leg, extending up to the hip. Leg very much swollen, slightly flexed, and tenderness on pressure over the iliac vessels. Vaginal examination reveals no mass, but tenderness on pressure in left vault.

December 11, 1921—X-Ray of spine and pelvis revealed no bone metastases.

December 22, 1921—Left leg somewhat improved. Still tender.

January 10, 1922—Patient still unable to walk, swelling and tenderness. General health failing.

February 20, 1922—Patient has returned to her home in Buffalo, New York. Husband states that patient is in very bad condition, unable to straighten her leg, losing weight and strength, and suffers intensely when not under opiates.

Comment—We believe that this patient developed a recurrence of the left iliac glands and although we have not been notified of her death, we presume that this has occurred.

Our series of 46 cases treated with Radiotherapy. Since April, 1919.

Multipara, 39.	Non para, 7.
Number of cases under 35.....	4
Number of cases 35 to 45.....	10
Number of cases 45 to 55.....	21
Number of cases over 55.....	11
Average duration of symptoms when first consulted—months	9
Number of patients who received one intensive Radium treatment only.....	8
Number of patients who received two intensive Radium treatments	12
Number of patients who received three or more Radium treatments	23
Number of patients clinically well for over 3 years	1
Number of patients clinically well for over 2 years	3
Number of patients clinically well for over 1 year..	13
Number of patients clinically well for over 6 months and still under observation.....	12
Number of patients known to have died.....	12
Number of patients result unknown, presumed to be dead.....	5

CONCLUSION

1. We wish to again emphasize pre-operative X-ray treatment.

2. The combination of Radium and X-ray therapy in cases of uterine cancer has a definite place in the treatment of this dreaded disease, first, the clinical cure of some; second, in the alleviation of those two very distressing symptoms, namely rank discharge and bleeding and lessening the morbidity.

3. While we never consider a cancer patient cured until death occurs from some cause other than cancer, the fact that Radium has caused apparent cures in inoperable cases and for more than two years in many cases, with no

signs of disease leads us to believe that if Radium is properly used we have a very important agent in the treatment of these cases.

CARCINOMA OF THE BREAST, ITS COMBINED TREATMENT, SURGERY, X-RAY AND RADIUM*

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With the passing of empiricism in medicine and surgery and the ever increasing progress in the perfection of diagnostic and curative measures, the co-relation, in the treatment of various diseases by the combined methods is the rule, rather than the exception; and must be recognized as safe, sane, more or less obligatory in order to meet the present demands of an enlightened public and a progressively exacting profession.

This is exemplified very auspiciously in the combined surgical, X-ray and Radium treatments of new growths, especially those involving the breast. If we accept as a fact, the theory of irritation, diminished local resistance, and loss of control, though the accurate cause is still unascertained, uncertain, or unproved, new growths of all types must be potentially regarded unassuming benignity, unequivocally demand, with rare exception, thorough early eradication by excision with knife, electrolytic dissociation, X-ray and Radium. 85 per cent of all tumors in the breast if untreated have been demonstrated to be malignant.

The corroborated and check mass-weight of reliable clinical evidence is notoriously in favor of non-temporizing treatment and simply demands nipping in the bud, these various new growths which show at least 90 per cent cures with 100 per cent operative recovery, as against about 80 per cent cures in local early malignancies; and less than 25 per cent cures with secondary axillary glandular involvement, with practically "no eight year cures with bone, brain or lung and other metastases."

Cancer age—graphically depicted we must include the extremes—begins at birth and ends at death, reaching its high peak of incidence between the age of thirty and fifty. It demands extra careful scrutiny by the clinician, constantly and much more so about the very active periods of life. We must be impressed by the repeated and confronted histories in regard to the grave errors and lack of personal knowledge of the average individual and to a greater or less extent by the profession. Unfortunately the ignorance of the laity; I must say also, of many of the profession, who

consider a breast tumor as of little moment, unless they find axillary glandular involvement which carries with it these decreasing cures and the frightful mortality, which stands as monumental evidence that both the public and profession are derelict in their duty to mankind and necessitate redoubling our efforts and suggests an everlasting reiteration under pain of what may seem useless repetition—the important time proven fact—"that cancer begins as a local disease and can be absolutely eradicated if removed early and that the incidence of *curability* becomes relatively less and less as the growth progresses and spreads."

The burden of this terrible national calamity should be squarely placed on the shoulders of the public and legislatures by the insistence of the profession in demanding thoroughly trained men, who expect to practice medicine in whatever form; until this fundamental is accomplished, the great responsibility rests on your shoulders for the intelligent and careful examination of your patients and the exercising of perseverance, judgment and conviction in the relative cure and treatment thereof. So long as a new growth remains in the host it must be considered as potentially eruptive and may unceremoniously burst forth and disseminate irreparable damage widely distant from the original source and pass unobstructed through the usual first line filters and will be the nidus for the ultimate destruction of the individual while locally presenting apparent perfect innocence and quiescence. The only clinical evidence which may lead one to suspect an underlying dangerous condition being the progressive loss of strength, weight, pallor-increasing secondary anaemia from no other appreciable cause; thereby, making one gravely suspicious of such a small innocent appearing tumor spreading so unobtrusively with so little apprehension. If you will visualize for a minute what takes place in the average breast at its beginning—granting that the body as a mixed cellular group may be considered under thorough co-ordination having fairly accurate control over reproduct of life and death of individual.

First, a few living cells become irritated and thereby begin to increase in number—proliferate if this is orderly under normal control nature forms a simple adeno-fibroma depending on the character and type of cell involved. There is always a definite arrangement of like cells following the natural laws of growth, irritation, waste and repair; now if these cells assume revolutionary characteristics and the normal resistance and control is lacking or deficient or absent, they begin to grow without restraint, wildly among themselves and finally

*Read at 57th annual meeting M. S. M. S., Flint, 1922.

bursting their normal envelope and infiltrate and crowd with no restrictions through neighboring unlike cells, usurping the normal nourishment of these surrounding cells. Many or both succumb to the wild orgy of growth. Now nature in many instances attempts to protect herself and so she throws out stimuli to the protective group, e. g.; the connective tissue cell which proliferates and attempts to keep within bounds and herd the revolutionary cell by throwing up barriers of scar tissue between them and about them and the success of these govern the character of the growth, whether soft or hard, medullary or scirrhous carcinoma or sarcoma. Many of these parasitic cells, grow so rapidly that they crowd and force themselves through the old and newly formed blood vessels clogging both the vascular and lymphatic circulations. Myriads are arrested at the first line of filter—"the axillary lymph glands," but a great many pass on through and disseminate widely throughout the body especially in bone, brain, lung and other viscera and set up new growths and thereby multiply at the expense and to the dire disadvantage of the host; so it is this dissemination going on insiduously, continuously, irregularly, which finally begins to break down nature's resistance, as without doubt a great many normal and parasitic cells are destroyed in the battle—for the patient begins to show loss of weight, mild, increasing secondary anaemia—the only too constant picture.

I hope I have vividly, though homely brought to your cognizance only a few of the grave potentialities far beyond the dreams of the average practitioner who symbolizes the small breast tumor with no palpable axillary glands as perfectly innocent, which at that very moment may be broad-casting highly malignant cells far beyond the curative reach of medical science as exemplified by skillful surgery, Radium and X-ray. It must be ever repeated and repeated that the size, location and consistency, shape of the new growth bears no relation to its malignant proclivities—though it has often been observed that the nearer the approach to the nipple the greater the rate of glandular tissue increase and markedly higher in the scale of malignancy they rise; so let this be an important governing factor in the exercising of your firm, good judgment and explication of your forceful, yet condescending gentle conviction, impressing upon the sensitive patient the absolute necessity of early thorough removal by suitable measures whether it be by Scalpel, X-ray, Radium or preferably combination of the three. Do not misunderstand me, I do not wish to convey the idea that every case should be rushed to the surgeon,

far from it—as there are many functional derangements of the breast which simulate new growths and must be carefully observed, but be sure that they are observed and don't allow judgment to be blinded by too much conservatism or clouded and distorted by soporific indolence. If you are consulted late and today it is the rule, that fully 60 per cent of the patients have glandular involvement when presenting themselves to the surgeon for first examination which carries with it eight year cures of only 1 to 20 per cent.

The picture which you should take home in your mind's eye so that the diagnosis can be fairly accurately made, in the preponderance of cases is "that of a stony, hard irregular growth when deeply situated or a hard growth with multiple areas of skin dimpling if superficial."

TREATMENT.

Surgically a thorough painstaking radical block-dissection of axillary and sub-clavicular lymph glands and fat carrying areas together with both pectorals and breast. The per cent local recurrence will depend on the dexterity ability and carefulness of the surgeon. The measures should be executed by consistent progressive step, conclusion reaching a perfect climax in clean removal of all breast, muscles and infected glands and leave the patient with a minimum of shock.

Sistrunk of Mayo Clinic reporting results from 218 operations says that of 86 patients operated before glands are involved, 64 per cent are alive from five to eight years after operation with known recurrence in only six. Of 132 patients in whom glands not involved at operation, 19 per cent are alive from five to eight years after operation and only three known to have recurrences. Of 218 collectively grouped without reference to glandular involvement 36.7 per cent are alive from five to eight years after operation, with recurrences in nine. 60.5 per cent showed glandular involvement and at the end of five years 61 per cent were dead. 39.5 per cent were not involved and 39 per cent were alive. 86 patients who showed no glandular involvement, 85 per cent were alive at five years; so that 75 to 80 per cent should receive five to eight year cures if operated early. Only 52 per cent were cured in carcinoma of upper inner quadrant; and only 25 per cent cured in carcinoma of lower inner quadrant due respectively to the lymphatic distribution of the lung and stomach, these chains cannot be surgically removed as they perforate the wall together with the vessels and drain into the gastro hepatic mesentery and mediastinum. Carcinoma occurring in pregnant and lactating women practically always fatal. (80

per cent with cancer of the breast should obtain five to eight year cures).

A local recurrence should not be looked upon with hopelessness, but should be promptly and widely excised—usually meaning insufficient removal of underlying fascia or knife implantation through careless excision.

During the past five years it has been my practice when possible to thoroughly X-ray cases before operation and after careful block excision to begin intensive X-ray treatments 9-inch spark gap over several ports, weekly, using 5 to 10 ma. cur. and 8 cm. of distance—During the past two years supplanting this with direct implantation of radium, element 50 mg. into wound at operation and thoroughly

radiating this about the large wound, especially in the neighborhood from which the growth was removed, gives at least 1200 mg. hours. since combining these several methods and paying especial attention to careful regulation of good nutritious diet in order to keep resistance of patient at the highest by addition of mild tonics and iron. I have without doubt given my patients a much greater benefit and to date have been able to control recurrences and to prevent same in operative wound. I can confidentially thoroughly recommend the consistent Triad, Surgery, X-ray and Radium as the most efficient combination we possess today, if persistently and carefully used that over 80 per cent should obtain eight year cures.

OUR BREAST TUMORS—CLASSIFIED ACCORDING TO MICROSCOPICAL REPORT									
TOTAL CASES 55.	{ Females 52 Males 3	{ Left Breast 27 Rt. Breast 25 Bilateral 3	{ Malignant 36 Benign 19 Malignant and Benign, 1 Potentially Malignant 3.	{ Early 3 Late 33	{ Carcinoma, 35. Sarcoma 1.	{ Medullary Squamous..... 8 Scirrhus 14 Adenocarcinoma 9 Basal Cell 1 Carcinoma Simplex 3 Small Round Cell 1			
						{ Advanced Tuberculosis 2 Chronic Polycystic Mastitis 5 Chronic Purulent Mastitis 1 Adeno-Fibroma 9 Myxoma 1 Accessory Breast 1			
						{ Early Carcinoma Coincident or Arising on a Tubercular Mastitis..... 1			
						{ Chronic Mastitis 1 Fibrosis and Cystic Degeneration 1 Adenoma and Interstitial Mastitis 1			

1737 David Whitney Bldg.

THE 1922 CANCER WEEK CAMPAIGN
IN DETROIT

HARRY C. SALTZSTEIN, M. D.
DETROIT, MICH.

We think the methods and accomplishments of the recent medical publicity in connection with "Cancer Week" to be important enough to again warrant being placed on record.

METHODS.

Newspapers. A total of 60 items in the daily press were secured. Considerable newspaper publicity was secured in advance of cancer week—an article each week for 7 to 8 weeks. There was a dual advantage in this: (a) entry toward any co-operation was easy, for any organization, church, union, club, etc., had already heard that there was to be a cancer week; and (b) the idea and purposes did not need to be introduced to the public during the week. As the ball of publicity gained impetus,

cancer was considered more and more as news, and during the week proper, each newspaper published an informative article on cancer of a different body organ each day. Previously, "news" meant announcements, names, that a meeting was going to be held, or something was going to happen. A brief daily didactic lecture on cancer of the stomach, breast, mouth, etc., would not have been incorporated in the news columns of a large city without extensive preliminary publicity. Such informative articles were not accepted, or were sidetracked because of the rush of other news, at first.

These columns were headed: "*The Nature of Cancer.*" Daily articles will appear in this column throughout Cancer Week, written under the auspices of the Wayne County Medical Society." After the article this paragraph appeared:

"Should anyone have or suspect they have the beginning of such a growth, they are urged to consult a reliable physician at once for a

thorough examination and advice as to proper treatment if such examination shows that a cancerous condition is present. For those unable to go to a physician, special free cancer clinics are held daily in all the hospitals of the city throughout Cancer Week." (The newspaper publicity was in charge of Dr. E. D. Spalding.) This is quoted in full for the interest it should have for students of better relations between the medical profession and the public. Considerable publicity was also obtained during Dr. Bloodgood's visit—the news value being chiefly that an "out of town distinguished surgeon comes to aid cancer drive."

Motion Picture Theatres. Instead of slides, news trailers were used. These are 75 foot films attached to all the news weeklies released in Michigan during Cancer Week and were obtained through special arrangement with the Free Press News Weekly and the Theatre Owners of Michigan. The brief talk in each theatre by a physician was given, but it was much easier to get the theatres' co-operation than it was to secure 100 speakers.

Dr. Bloodgood's visit and scenes at the hospital cancer clinics were current news of enough value to be snapped and incorporated in the Free Press Motion Picture News Weeklies released November 5 and November 19.

Literature. This was distributed through the schools by the department of Health, Nurses—each child above the fifth grade being given a pamphlet to take home to his parents.

Industrial Publications. A new type of publicity started this year was the matter of interesting large corporations to include an article in their plant magazines. It was very easy, for compensation laws have educated a certain health responsibility among industries. A circular letter, enclosing two brief cancer articles and a clipping from a daily paper describing the campaign was sent. Several plants asked for posters and 6000 to 8000 "Vital Facts" circulars were distributed in pay envelopes.

Churches. Each pastor and priest was sent a circular letter asking that he make an announcement; how general these announcements were, it was impossible to determine.

Lectures. These were not undertaken as extensively as possible, chiefly because other activities absorbed so much time.

Finances. The campaign cost \$1000. \$500 was spent for motion picture films, \$250 for literature, the balance for incidentals. Half of the fund was obtained from the Chase cancer fund at Harper Hospital, half through the generosity of Mr. John Anderson.

TABLE I.

SUMMARY REPORT.

A. Number of written articles and editorials. (Medical Journals, Industrial Publications, Public Health Bulletins, Etc.).....	78
B. Number of Motion Picture Theatres which co-operated News Weeklies throughout State, (500).....	150
C. Number of lectures delivered.....	169
1. Total number of persons reached by lectures	42,450
2. Number of audiences before which Dr. Billings' letter was read.....	300
D. Number of cancer clinics held.....	55

DETAILS OF ABOVE REPORT.

A. Written Articles.		
Number of news articles.....	59	
Numbers of editorials in newspapers.....	3	
Number of articles in Medical Journals.....	14	
Number of editorials in Medical Journals...	0	
Number of articles in Industrial publications	5	
B. Motion Picture Theatre Co-operation.		
Number of theatres in which 75 ft. news trailers (75 copies) were.....	150	
Shown throughout State	500	
Number of theatres in which short talks were given	150	
Number of theatres in which literature was distributed	0	
Number of theatres in which the film, "Reward of Courage" was shown.....	5	
Approximate number of persons reached through picture theatres	100,000	
Throughout State	500,000	
C. Scientific Meetings and Public Lectures.		
	Number	Attendance
Professional and scientific meetings (Medical Societies)	4	700
Public meetings under auspices of Medical Societies	0	...
Meetings for medical students.....	1	50
Meetings for nursing organizations....	1	100
Meetings for nurses in training.....	0	...
Meetings for classes in schools for Health Officers	0	
Meetings for Church Clubs (men and women)	1	100
Meetings for other undergraduate college students	0	
Meetings for Federation of Women's Clubs	1	150
Meetings for Fraternal Orders and Lodges	0	
Meetings for Rotary, Kiwanis and other Civic Clubs	0	
Meetings for Chambers of Commerce and Boards of Trade	0	
Meetings for factory talks	9	800
Others: Miscellaneous	2	500
No. of Announcements	No. Approx.	Attendance
1. In churches	600	150,000
2. In lodges	0	
3. Others	0	
Number of radio talks given.....	2	
Literature distributed:		
What, how much, if anything, was distributed locally?		
"Vital Facts" free quota from New York City		18,000
"Vital Facts" extra from New York City...		100,000
"What Everyone Should Know" from New York City		5,000
Postals—from Chicago		200
Postals—from New York City.....		150
D. Number of Free Diagnosis Clinics held.....		48
Number of patients		321
E. Additional information, remarks and suggestions:		
Advance newspaper publicity made entree to any organization.		
Mayor's Proclamation was decided aid to publicity.		
Articles in Industrial Publications created interest.		
Movie "News Trailers" instead of slides are automatically carried through State.		
Movie News Weekly (Free Press) Items of:		
A. Dr. Bloodgood's visit.		
B. Scenes at Free Diagnostic Clinics.		
Permanent weekly Cancer Clinics have been established in Harper Hospital and Grace Hospital.		

THE RESULTS.

Having heard of a movement, and receiving and acting upon the proper information, are

different quantities. A person may have remembered dimly that there was "some sort of cancer movement," but unless the descriptive information of the early signs has been lastingly impressed, the effect desired has not been obtained. We are certain that the entire community now knows of the movement, but of course we are just as certain that there is much to be done toward transferring the small amount definite information necessary to the community at large. Many physicians saw 2-3-6 patients in response to the publicity. Several saw 2-3 cancers.

Actually only a small percentage of cases are early during one week and deducting the larger number who went to their own doctor, the data from the free clinics represent only a small part of the total achievements. This data, however, shows definite results. (Table 11). Eight Detroit hospitals held free diagnosis clinics. 321 patients applied for examination. Roughly 10 per cent had cancer. The table includes 3 cancers of the mouth, seven of the uterus, 10 skin epitheliomata, 11 breast cancers. Precancerous conditions (leukoplakia, benign breast tumors, pigmented moles, etc.) constituted another 12 per cent—a total of 22 per cent either cancerous or precancerous.

As last year, the proportion of persons reporting for lesions of the skin (22 per cent of the total 321) was far in excess of the normal incidence of skin cancer (3 per cent). Those complaining of gastro-intestinal symptoms (27 per cent) were fewer than the normal incidence of cancer of the alimentary canal. No cancers of the alimentary canal were found in the clinics. As noted elsewhere,* getting gastro-intestinal cancers early enough for adequate treatment which is curative is still a serious problem for the medical profession as well as popular education.

The results seemed hopeful enough to warrant the establishment of permanent cancer clinics. These are already in operation, one at Harper and one at Grace hospitals. They have been organized in connection with the out patient departments of the two institutions, with arrangements to use the facilities and consulting staffs of the hospitals as needed. Their function will be confined to early diagnostic and clinical study of cancer and some further publicity programs, the end in view being to make "Cancer Week" efforts somewhat continuous, though of course, not as intensive. We are still sure that in actual accomplishment, there have only been two "flashes in the pan."

*Saltzstein H. C. The Early Diagnosis of Cancer. J. A. M. A. (Forthcoming).

TABLE II.

	Harper	Ford	Grace	St. Mary's	Providence	Receiving	Highland Pk.	Deaconess	Total
Total No. of Patients....	98	78	27	38	32	28	12*	13	326
MOUTH 6.2%									
Cancer	2	1							3
Abrasion oral plate.....	2	1	1	2					6
Precancerous lesion	1	2							3
oLeukoplakia			1						1
Osteomyelitis									0
Oral inflam.			1	2	2	1			6
Pharyngitis									0
Benign Tumor			1	1					2
STOMACH 27%									
Cancer									0
Gall bladder		4		1	2				7
Cancer liver									0
Dyspepsia	7	1	2	5	4	6	2		27
Ulcer	5	3	6	2	2	4	2	1	25
Abdominal pain									0
Functional disorder	2	3		2	1	4	2	1	15
Appendicitis	3	10			2			2	17
COLON 1.2%									
Cancer									0
Colitis Mucous			1						1
Hemorrhoids		1							1
RECTUM									
Polyp	1								1
Fistula ano	1								1
BREAST 13%									
Cancer	3	4	1	2				1	11
Benign tumors	2	2		1		2		1	8
Chr. Cystic Mastitis.....	5	2	1	1	1	1			11
Traumatic Mastitis	1	1							2
Eczema									0
Adenopathy									0
Negative	5	1	2	2	1			1	12
PELVIC 8.7%									
Carcinoma Uterus	3	2			1				6
Menorrhagia	3								3
Fibroid	1	1	1	1				1	5
Pelvic inflam.	2	1							4
Senile Vaginitis	1	1							2
Cervicitis, Prolapse	2	2	1		2			1	8
SKIN WW 22%									
Epithelioma	3	1		2	2	2			10
Papule, wart								1	1
Keratosis	2	4	1						7
Leukoplakia		2							2
Benign tumor	7	1		1	1				10
Sebaceous Cyst.	2		2	1	1	2		1	9
Lues									0
Dermatitis, Eczema, In-									
flam., Psoriasis, Ulcer, etc	5	2	2	2	3	1	2	3	20
Erosion, Scar, Kiloid.....	2	2	1						5
Tumor Orbit	1								1
Negative	7			2		1			10
MISCELLANEOUS									
Adenitis		4							4
Thyroid		1			1				2
Cardiac		1		1					2
Syphilis		1				1			2
Tuberculosis, Pulmonary		1							1
Obesity									2
Strain	1	2				1			4
Arthritis	1								1
Nasal spur, deflected sep-									
tum, etc.		2							2
Hernia		2	1			2			5
Abdom. Adhesions	3			2					5
Hyper. Prostate					1				1
Menopause					4		1		5
Headache							1		1
Cystitis	2	1	1	1				1	5
Recur. Metastatic Cancer	2	1	1	1					5
No data	11	6	1	1		1		1	21

PRESENT DAY CONCEPTIONS OF THE
METABOLISM AND TREATMENT
OF DIABETES*

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The history of diabetes and the cycles through which its treatment has passed is of

*Presented at meeting of Genesee County Medical Society, Oct. 4, 1922.

great interest and a brief resume of this aspect of the disease seems appropriate before discussing our present ideas on the subject.

The disease was first recognized by Celsus (30 B. C.-50 A. D.). It is again described by Aretaeus (30-90 A.D.) who is given the credit of first naming it diabetes, from the Greek, meaning "A Siphon," or "to run through." Thomas Willis (1679), a Professor at the University of Oxford, was the first European to mention the sweet taste of the urine "as if imbued with honey and sugar," but it remained for Matthew Dobson (1775) nearly 100 years later, to show that this taste was due to sugar. He evaporated diabetic urine and obtained a white cake which tasted like sugar and when allowed to stand, fermented and lost its taste. He also mentioned that the blood was sweet to the taste.

John Rollo (1797), a surgeon of the English army, is given the credit of first treating diabetes by means of diet. He restricted carbohydrates and gave protein and fat. Shortly after this the fat treatment was pushed to the limit by Rollo's contemporaries who gave rancid fat, bread dipped in oil, melted fat of beef and hot oil, as well as drugs which produced nausea and anorexia. Allen states that these were the first instances of the fasting treatment and surely they were the first incidences of a high fat diet.

About 1850 our knowledge of Diabetes again advanced with the advance in physiological chemistry. The Trommer copper reduction test for sugar was announced in 1841 and the Fehling test in 1850. Claude Bernard about this time discovered glycogen and the glycogenic function of the liver and was the first to do quantitative blood sugar estimation.

The outstanding clinician of this period was Bouchardot, of Paris, who revived the Rollo treatment and made many advances in the knowledge of diabetes. He insisted that each patient be individualized. He substituted fat and alcohol for the carbohydrate in the diet and forbade milk because of its sugar content. He urged that the patients eat as little as possible and inaugurated occasional fast days to control glycosuria. He noted the disappearance of glycosuria in many diabetics during the privations of the siege of Paris. He recommended the giving of green vegetables and devised the method of boiling the vegetables, and throwing away the water, to reduce the quantity of starch. He invented gluten bread and advocated daily testing of the urine. He also showed that carbohydrate tolerance is raised by out door exercise.

From Bouchardot to the present time, many plans of treatment have held the limelight.

Many scientific chemical, physiological and clinical facts have been established, thereby placing the diatetic treatment of diabetes on a more scientific and rational basis.

Acidosis was often mentioned after 1850, but Kussmaul in 1874 gave the first detailed description of it.

Among the men who contributed to our knowledge of diabetes should be mentioned Cantani, a clinician of Rome (1875), who set a standard for strict diet. He gave chiefly animal food and fat and used occasional fast days.

Kulz, whose publications cover the period from 1874 to 1899, did much to establish on a scientific basis the teachings of Bouchardot. He was one of the first to calculate diets according to caloric requirements. He did not fast patients, but gradually withdrew carbohydrates to avoid acidosis. He discovered oxybutyric acid in diabetic urines simultaneously with Minkowski.

Naunyn, whose publication from 1886 to 1908 developed the subject of acidosis for which he gave alkalies, allowed a bare maintenance diet, considered that fat was the chief food of the diabetic and used it to complete the full number of calories.

Lenne (1898 to 1907) advocated low protein, low carbohydrate and fat to the limit of the appetite.

Van Noorden who occupied a position of prominence during the early years of the present century, followed the previous methods of treatment of Bouchardot and of Kulz. He used fast days which he called metabolic Sundays and gave fat to the limit of the patient's appetite. He introduced the oatmeal cure.

Guelpa, of Paris, published numerous articles from 1909 to 1913 and was the first to advocate a radical initial fast, fasting the patient 3 to 5 days 'till sugar free and at the same time purging them. He considered loss of weight an advantage. However, after the fast, he gave considerable carbohydrate, especially milk and when sugar returned, repeated the fast.

More recently in this country Allen, Joslin and others have advocated fasting, while Newburg and Marsh, Woodyatt and Wilder have favored a diet with low carbohydrate and protein and high fat.

During the past 6 to 8 years, renewed interest has been taken in this country in metabolic research and numerous points have been brought out which place the dietetic treatment of diabetes on a more rational basis.

In planning the proper diet for a diabetic, the following points have gained recognition. 1—The principle of total caloric restriction.

2—Protein allowance to maintain nitrogen equilibrium but no more. 3—Carbohydrate allowance to a point just below that which the insufficiency of the pancreas will permit. 4—Fat allowance to bring the total calories to the desired amount, but never exceeding the amount which can be burned without acidosis, i. e., balancing the ketogenic—antiketogenic process. 5—A consideration of the fuel which may be supplied from the patient's own body, be it fat, protein or carbohydrate.

1. Total caloric restriction. The chief value of such restriction depends on its reduction of the metabolic rate, thereby lessening the food requirements. It has been shown that the basal metabolic (2. 3.) rate of the diabetic is practically the same as a normal individual's providing the patient is not on a high protein or high caloric diet, or in a state of extreme starvation in which the body protein has been called upon and has produced its specific dynamic action; also providing that there is no complicating condition such as an acute infection or hyperthyroidism.

Allen, Stillman and Fitz (1) Joslin. (4) Allen and DuBois (2) and Wilder, Boothby and Beeler (3) are all in accord, that measures which reduce the metabolic rate, increase the diabetic's tolerance for carbohydrates. That this reduction of metabolism can be produced on a diet low in calories as well as by starvation is the opinion of Lusk, (5). Indeed Wilder (6) finds that a diet low in protein, but furnishing calories 20 per cent below the calculated basal requirement will produce a 15 to 20 per cent depression of the basal metabolism.

That the extreme starvation as often practiced in recent years is unnecessary, is the opinion of Woodyatt (7), Wilder (6) and Newburg and Marsh (8). That it may defeat its purpose (that of reducing metabolism) is also possible, due to the fact that when the fat stores of the patient are depleted the protein is called upon and in consequence the metabolism again rises. Also the carbohydrate portion of this protein is thrown into the circulation, again taxing the pancreas. This point has recently been emphasized by Woodyatt (7) who points out that we must not think of the diet exclusively, but also of what may be drawn from the patient's own store to keep up heat production.

Even the moderate food restriction enforced during the World War according to statistics of Magnus-Levy (6) lessened the incidence of diabetic deaths.

In estimating the basal caloric requirements of a patient Wilder (6) uses a chart prepared by Boothby and Sandiford (9) according to the

DuBois (10) standard, based on age, sex, weight, height and body surface. For practical purposes it seems accurate enough to assume that the body normally requires 25 calories per kilogram body weight and in preparing a diet for low maintenance to consider 20 calories per kilo sufficient.

2. Protein allowance to just maintain nitrogen equilibrium. The minimal protein allowance of man has been a matter of controversy. The earlier investigators considered that 1 to 2 gms. of protein per kilogram body weight per day were necessary to make good the losses of the tissue due to wear and tear. More recent data are however lower, due as Sherman has pointed out, to more accurate methods and a better understanding of the subject. Marsh, Newburg and Holly (12) have recently reviewed the subject and added their own observations on diabetic patients. They maintain that it is an established fact that nitrogen equilibrium may be maintained on less than 0.66 gms. protein per kilo body weight per day, providing that the total caloric intake of carbohydrate or fat is sufficient to supply the body needs for heat and energy and allow the protein to be used for restoring body tissue.

It has been well established clinically for some time that diabetics do badly on high protein intake. This is due to three reasons: 1.... Because the specific dynamic action of protein increases the metabolic rate, as previously discussed; 2—Because in the burning of protein 58 per cent of its weight according to Woodyatt (7) is actually converted into glucose and is equivalent to feeding so much carbohydrate food; and 3—According to Wilder (3) protein seems to exert some unexplained specific depressant effect on the sugar burning mechanism.

A new interest has been stimulated by the recent successful use of high fat low protein and sugar diets by Newburg and Marsh (8). Woodyatt (7) discusses such protein restrictions, laying emphasis however on the protein sparing qualities of the ingested fat.

3. Carbohydrate restriction. Woodyatt (7) characterizes diabetes as being one specific defect, i. e., as inability on the part of the body to utilize as much glucose as may be utilized by the normal body, when the supply of glucose exceeds certain limits. He considers that the body's sugar utilizing apparatus (the pancreas) is stimulated to a state of fatigue and decreased function, hence if less carbohydrate is fed, the organ would be allowed to rest and recuperate up to a certain limit, and the tolerance for sugar increased.

Such ideas are in accord with clinical facts

and in treatment, sugar is restricted to the limit, necessary to maintain a normal blood sugar. That is providing enough glucose is kept burning to allow the fatty acids to metabolize and thereby avoid acidosis.

4. Fat allowance. It is stated that fat burns in the fire of the carbohydrate, hence the necessity of balancing these two diatetic elements so that no more fat is allowed than can safely be taken care of by the sugar burning ability of the patient. In other words, balancing the ketogenic antiketogenic materials, so that the fatty acids (ketogenic) do not accumulate in the body and produce the state of acidosis.

Just how many grams of fat (or fatty acids) can be burned in the fire of one gram of glucose has been the disputed point. Previous to the recent use by Newburg and Marsh (8) of high fat diets there has apparently been an undue fear of the use of fat. These investigators pushed the fat content far beyond that which has previously been considered safe, yet, have encountered no cases of acidosis attributed to such a diet. The possibility of such a high fat diet being safe, has recently been explained scientifically by Shaffer (13) Woodyatt (7) and by Wilder and Winter (6). In the test tube Shaffer has determined that two molecules of fatty acid will burn with one molecule of glucose, the 2 to 1 ratio. Woodyatt considered that the ratio was 1 to 1 or 1.5 to 1.

Each molecule of fat contains three molecules of fatty acid and one molecule of glycerol. It is assumed that glycerol acts antiketogenically as one half a molecule of glucose and therefore ketolizes one of the fatty acid molecules. This leaves of each molecule of fat, two molecules of fatty acid to be cared for by one molecule of glucose (2 to 1 ratio). In reality then, one molecule of fat burns with one molecule of glucose. The molecular weight of fat is assumed to be about 874 and that of glu-

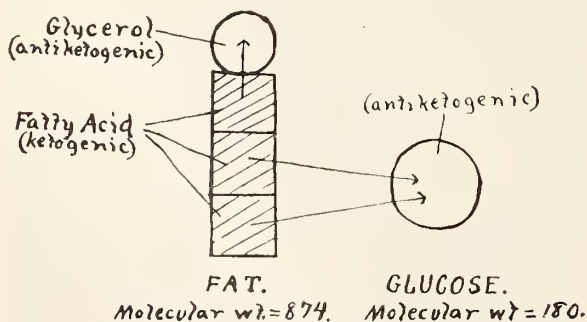
cose to be 180, therefore 874 gms. of fat will burn with 180 gms. of glucose, or 4.86 gms. of fat with 1 gm. of glucose. But in-as-much as the existence of infection and possibly other factors yet undetermined may lower the 2 to 1 ratio of ketogenesis, it is considered to provide a margin of safety, that a 1.5 ratio gives less danger of exceeding the threshold limit, this ratio giving 3.75 gms. of fat to each one of the glucose.

In this connection it is well to consider the carbohydrate derivable from protein. Woodyatt (7) states that according to the findings of Lusk, Osborne, Mendel and Shaffer, that from each 100 gms. of protein, 58 gms. of glucose are derivable. However, this same 100 gms. of protein also yields a certain quantity of products, chiefly amino acids and estimated at 16 gms., which is quite the equivalent of diacetic acid in its ketogenic action. Therefore in estimating the antiketogenic action of the protein carbohydrate, this amount 'must be subtracted from the 58 gms., leaving only 42 gms. to be considered. For safety, proboply only 40 per cent of the protein should be considered as available antiketogenic carbohydrate.

5. Consideration of the fuel which may be supplied from the patient's own body. When a man fasts, his heat production does not stop and his temperature does not drop. In order to keep up this heat production, the body tissues are called upon to furnish fuel. This to the extent of about 25 calories per kilogram body weight, if at rest, while with physical exertion it is much higher.

Benedict's case (14) is the best example of a careful complete metabolic observation of a fasting individual. His case was fasted 31 days. On the first day of fasting it was estimated that he produced 27.1 calories per kilo, or 1769 calories in all, furnished by 63.8 gms. of carbohydrate, 135 gms. of fat and 47.6 gms. of protein. On the third day he produced 26.4 calories per kilo, furnished by 38.5 gms. of carbohydrate, 130 gms. of fat and 68 gms. of protein. On the thirty-first day he produced 23.5 calories per kilo or 1281 calories in all coming from no carbohydrate, 115 gms. of fat and 41.6 gms. of protein. His available carbohydrate was practically exhausted by the sixth day. In the table is listed data gleaned from Benedict's book (14) and shows briefly some of the metabolic factors during fasting.

It is evident from what has been previously said, that in fasting patients or in placing them on a diet much below their caloric requirements, that the factors of endogenous metabolism must be considered.



Diagrammatic representation of the fat and glucose molecule showing the ketogenic and antiketogenic components.

BENEDICT'S CASE FASTED 31 DAYS

	Last Day of Food	FAST DAYS								Third Day of Food
		1	3	5	7	9	14	21	31	
Body Wt. K.	60.64	59.60	57.79	56.37	55.50	54.63	53.15	50.49	47.39	48.17
Temp. Rectal C. ....	.....	36.41	.....	36.58	36.42	36.50	36.30	36.12	36.14	37.53
Pulse Rate	73	74	70	67	64	63	58	59	60	84
B. P. Lying.....	124/93	134/100	113/80	113/85	112/85	110/81	104/80	98/75	101/80	124/102
Resp. Rate	10.6	9.3	11.3	11.8	11.8	12.1	12.4	10	13.3	14
Heat Produced per K.	25.2	27.1	26.4	24.7	24.6	23.5	23.0	23.0	23.5	27.1
Carbohydrate gms. Katabolized, 24 hrs..	.....	68.8	38.5	15.1	0	13.5	0	0	0	.....
Fat Katabolized, 24 hrs..	.....	135	130	133	134	119	117	112	115	.....
Protein Katabolized, 24 hrs..	.....	42.6	68.0	62.5	58.7	64.4	62.6	47.6	41.6	.....
Total Heat Output, 24 hours.....	.....	1769	1702	1609	1540	1481	1394	1276	1281	.....
Calories From Carbohydrate .....	.....	291	163	64	0	57	0	0	0	.....
Calories From Fat .....	.....	1290	1238	1269	1280	1139	1117	1066	1097	.....
Calories From Protein .....	.....	188	301	276	260	285	277	210	184	.....

Applications of the principles. From a practical standpoint it is often impossible to plan and obtain the proper execution of an individually planned diet. For this reason we are making use of a test diet system, shown in table, which as a nucleus involves only six diets, each one based on a certain body weight, allows 20 calories and 0.50 gms. protein per kilo and enough carbohydrate and fat in the proportion of 3.5 gms. fat to 1 gm. of available carbohydrate to bring the total calories to the desired amount. On beginning treatment the patient is placed on the appropriate diet for his body weight until he is sugar free. Then in case of a lean patient he is stepped up to the next diet, and so on, until he is getting 30 calories and 60 gms. protein per kilo, which occurs on his third diet. In the case of a fat diabetic however, it has seemed more advisable to gradually add only the 5 or 10 per cent vegetable to the original diet, thereby bringing the total calories and protein intake up to actual requirements of an individual taking exercise, without increasing the fat, which in the larger amount is often found objectionable.

We believe that such a procedure simplifies the dietary treatment of a diabetic without sacrificing the scientific consideration of his or her requirement and in practice has been found very satisfactory.

Pancreatic extract treatment. Since 1889 when Von Mering and Minkowski discovered that total pancreatectomy always produced a severe and fatal diabetes in the dog, there have

DIABETIC TEST DIETS
FOR DESUGARIZATION

No.	Weight Patient	Cals.	P Gms.	C Gms.	F Gms.	5% Veggies. Oz.	Lean Meat, Oz.	Eggs	Bacon, Oz.	40% Cream Oz.	Butter or Olive Oil
1.	35-45K 75-100 lbs.	800	20	11	70	8	1	1	0	3	1
2.	45-59K 100-120 lbs.	1000	25	14	90	11	1	1	1	3	1
3.	55-65K 120-145 lbs.	1200	30	17	108	14	1	1	1	3	2
4.	56-75K 145-165 lbs.	1400	35	20	125	17	2	1	1	3	2
5.	78-85K 165-185 lbs.	1600	40	23	145	20	2	1	2	3	2
6.	85-95K 185-210 lbs.	1800	45	26	160	23	2	1	2	3	2

been many attempts to obtain an extract from the pancreas which, when administered to a diabetic would aid him in the utilization of sugar. These attempts have failed because of the fact that the external secretion of the pancreas destroys the internal secretion when they come in contact.

Recently, however, a group of investigators at the University of Toronto, (Banting, Best, McLeod, et al), have obtained a potent extract of the pancreas, which, when injected into a diabetic dog or man produces a rapid burning of sugar and a corresponding fall in the blood sugar.

It was recently the writer's privilege to visit Toronto and go over the results of their work.

Their patients are all carefully controlled as to diet and metabolic study and their extract (insulin) when given hypodermatically causes the patient to burn sugar in proportion to the amount of extract administered. This extract, however, is not potent when given by mouth or rectum as its active principle is destroyed by the intestinal contents. Its use is analogous to the use of thyroid extract in myxoedema, it is not curative but must be continuously administered to supply the necessary internal pancreatic secretion which the diabetic patient lacks. Its use does not replace the dietetic management and it is advocated by the discoverers themselves only in those cases which have a very low sugar tolerance and hence uncontrollable by dietetic means, in these patients its use is life saving. The two big drawbacks to its use lie in the fact that it must be given by hypo, once, twice or three times per day and its high cost of manufacture which at present places it beyond the great number of diabetics. Another objection to its routine use is that it is not void of danger as an over dose may reduce the blood sugar to such a low level that death results from the blood sugar being too low rather than too high, hence its administration should be done only under carefully controlled conditions. I believe the discovery of these Toronto investigators to be the greatest that has taken place since the discovery of Salvarsan.

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AN INVITATION

January 26, 1923.

Dr. F. C. Warnshuis,

Editor Journal of Michigan State Medical Society,
Grand Rapids, Michigan.

Mr Dear Dr. Warnshuis:

I am writing to call your attention to a feature of the program of the coming annual meeting of the Ohio State Medical Association, Dayton, Ohio, May 1, 2 and 3—which may be of special interest to some of your membership.

The Eye, Ear, Nose and Throat Section of our Association has secured Dr. Robert Von Der Heydt of Chicago to deliver an address on "Slit Lamp Microscopy of the Living Eye, Its Aid to Histological Research and as a Refinement in Ophthalmic Diagnosis."

This is a subject of great interest to ophthalmologists, now coming to their attention through the influence and efforts of men like Dr. Von Der Heydt, who is one of the pioneer workers in this field in this country.

Dr. Alderdyce, the Section Chairman, feels that the Association is very fortunate in securing Dr. Von Der Heydt to present this important subject, and he hopes that not only the physicians of Ohio, but those of adjoining states—Michigan, Indiana, Kentucky, Pennsylvania and West Virginia—will avail themselves of the opportunity to hear him.

Will you not, therefore, through the medium of your State Journal, and in any other way possible, extend an invitation to your membership to hear this address on Wednesday, May 2, at 9:00 a. m.

Other features of the Ohio program will include an oration on Public Health by Dr. Livingston Farrand, president of Cornell University, and an oration on Surgery by Dr. Joel E. Goldthwait, Boston. Both of these addresses will be delivered on the afternoon of May 2nd.

With kindest regards and assuring you that we will be glad to welcome any of your members at the meeting, I am

Sincerely yours,

Don K. Martin, Executive Secretary.

THE JOURNAL
IS
YOUR FORUM—
WE INVITE YOU
TO UTILIZE
IT FOR THE
EXPRESSION OF
YOUR VIEWS
ON
MEDICAL SUBJECTS

Annual Meeting of the Council

OFFICIAL MINUTES

The regular annual meeting of the Council of the Michigan State Medical Society was held in the Michigan Union in Ann Arbor, on Jan. 16, 1923.

The first session convened at 6:15 P. M., at dinner as the guests of President Dodge. The meeting was called to order by Chairman Seeley with the following Councilors, Officers and guests present: A. L. Seeley, J. B. Jackson, Geo. L. LeFevre, W. J. DuBois, C. C. Clancy, H. E. Randall; President, Dodge, Treasurer, Welsh, Secretary-Editor, F. C. Warnshuis, M. L. Burton, A. M. Hume, F. B. Tibbals, Geo. Frothingham, Reuben Petersen, L. M. Warfield, J. B. Kennedy, F. Kelly, E. C. Taylor, G. H. Ramsey, Dean H. Cabot, G. Carl Hueber, W. H. McCracken, John Sundwall.

Chairman, Seeley addressed the Council as follows:

In a paper by Dr. Olin West, Secretary of the American Medical Association, read before the Annual Conference of Constituent Medical Associations at Chicago in November 1922, he states:

"While it is highly desirable that every qualified man should be affiliated with his County Medical Society, State Medical Association and the American Medical Association, it is not at all desirable that unqualified men should be brought into affiliation, unless there is a very good basis for belief that such men can be helped with respect to their scientific equipment and brought to appreciate the righteousness of the principles of medical ethics and the holiness of the true ideals of the real medical profession."

It is our opinion that if the truths set forth in the above paragraph, as expressed by Dr. West, could be firmly impressed upon the members of the County Society they would greatly profit thereby.

Men educated in the medical profession and holding a license to practice medicine are, with a few exceptions, allowed to become members of the County Medical Society.

As a rule, the young man does not appreciate the honor that is being conferred upon him and the old man oft times joins the society to help cover up his sins and short comings. There is some hope for the young man, because, by this association with his fellows, in time he may learn, if he is right minded, that the best and only way is to practice ethical medicine, always observing the right of his fellow practitioners.

Medical ethics are oft times jeered at and ridiculed by the laity, because they do not

understand that all that constitutes medical ethics is the Golden Rule, "To do unto others as you wish to be done by," and the medical student's life time associations with the laity tend to make him take the same attitude. In his progress through school he has heard many times about medical ethics, but too many go into practice with the idea that ethics are all right but are intended only for the "other fellow." They are not sufficiently impressed with the fact that it applies to their own individual conduct.

How has the violation of our medical code affected the members of the Michigan State Medical Society?

Every year we listen to the report of the Chairman of the Medical Legal Defense Committee, Dr. F. B. Tibbals. We hear the names of the unfortunate doctor or doctors who have been sued for malpractice and sometimes, but very rarely, the names of the doctor or doctors who were the cause of the suit. We congratulate ourselves that the committee reported so few suits and had so few convictions and "let it go" at that.

The medical defense was organized January 1, 1910 and the members have put into that fund a total of \$37,365. Up to the present time the committee has had 310 cases of malpractice to look after and, that they have looked after them well is attested to by the fact, that, out of the 310 cases, only three cases were finally lost. In every malpractice suit there must be medical evidence for the prosecution and when a suit is started, with very few exceptions, it is started because some doctor, maybe not willfully, has said something that has induced the suit to be brought.

Now, what shall we, as Councillors, recommend to help correct the above condition? Would you recommend that it be the duty of the Medical Legal Officer in all County Societies to make a report to his society when a suit is threatened and again when the case is called into court, so that any doctor, if he so desires, may have the opportunity to hear the testimonies? After the case is discontinued or taken through courts, the Medical Legal Officer should report to the local society the disposition of the case *and the names of the doctor or doctors who caused, by their unethical conduct, the suit to be started.* By so doing it enables the Society, through its censors, to take the matter up and if medical ethics

have not been observed during the progress of the case, they will be in a position to advise the Society regarding what discipline should be measured out to the offending doctor or doctors.

Should we not recommend that when a new member is admitted to the County Society that his medical life be carefully scanned? That he be taken privately by one or more of the Board of Censors and with a few earnest words presented with a copy of the Principles of the Medical Ethics of the American Medical Association and requested that it be read over carefully and that it was expected that he govern himself accordingly? If this is done in all cases I am sure it will have a salutary effect upon our Defense Fund.

President Dodge addressed those present, outlining the activities that he was engaged in for the benefit of the Society and its members and the results that had been attained.

Dr. A. M. Hume, Chairman of the Committee on Legislation and Public Policy outlined the work that had been done by his Committee and their proposed activity during the present session of the legislature and submitted the following:

LEGISLATIVE COMMITTEE

The Committee on Legislation and Public Policy met with President Dodge in Lansing on Friday, December 8th. After thorough consideration of the most important public policies and possible legislation, which we as an organization will be compelled to either support or oppose, it was agreed between all present, (President Dodge included), that the Committee will unanimously and wholeheartedly support and co-operate in:

1. The present working plan of the State Society and the Medical Faculty of the University in educational extension work.
2. The opposition to the establishing of a separate faculty and training school for nurses at University of Michigan.
3. Support of the emphatic request to the Regents, that the administration of the University of Michigan Hospital be placed in control of the Medical Faculty, instead of independent control, as now existing.
4. An organized stand against any increased statutory recognition of the "cults" in medical practice, and support of our State Board of Registration in its efforts to more effectively enforce the provisions of our very liberal medical practice act.

There was then a general discussion of legislative activity, plans and the Sheppard-Towner law and was participated in by doctors Kelly, Chairman of the Wayne County Society, Legislative Committee, Reuben Petersen, Deputy Commissioner of Health Ramsey, Dodge, Frothingham, Jackson, DuBois, Clancy, LeFevre, Taylor, Kennedy and Hume.

On motion of Dr. DuBois, supported by LeFevre, the plan of the Legislative Committee activity as above was approved.

On motion of DuBois, supported by LeFevre

the action of President Dodge in appointing the Legislative Committee to meet with the Commissioner of Health was approved.

Dr. F. B. Tibbals, Chairman of the Medico-Legal Committee submitted the following report:

MEDICO-LEGAL COMMITTEE

To the Council,
Michigan State Medical Society,
Gentlemen:

If the number of cases handled may be taken as indicative of the value of the work of this Committee, its usefulness is increasing, for the number of cases handled is decidedly larger than ever before, being thirty-two for 1921 and thirty-seven for 1922.

For some years 1 per cent of the members of the State Society were annually sued or threatened and we used to hope that gradual education of the profession would reduce this percentage. But the increase of the past two years makes it clear that our education has not succeeded in eliminating selfishness and self-seeking from all individuals and we reluctantly accept the fact that malpractice suits will continue and perhaps increase, partly because of traits inherent in certain doctors and also as a part of the general assault made on the medical profession for some years past.

It is fortunate that the number of trial cases remains pretty uniform, for the expense of defense has increased tremendously, due to the great advance in fees exacted by all good attorneys.

During 1922 we paid \$3,600.00 to attorneys, with some bills not yet presented. Financially, our receipts have exceeded expenditures by about \$1,000, which has been placed in the reserve fund, whence it was taken during the period that the war so reduced our income.

We have repeatedly called attention to the role that the jealous doctor plays in inciting malpractice suits. Another instance has come to our attention, which is remarkable. In one rural county, we have defended three doctors and have another case pending. All these cases were incited by one man. In the trial of the last two of these three cases where two men were sued jointly, it transpired that this man had made charges which were proven false at the operation which he staged, at which he had present an outside surgeon, an attorney and stenographer and other prospective witnesses. Even after he knew that nothing was found to reflect on the ability of the previous operators, he allowed the case to go to trial with himself as the principal witness for the plaintiff. Such men do not belong in the ranks of organized medicine.

Respectfully submitted,
F. B. Tibbals,
C. B. Stockwell,
Charles W. Hitchcock,
E. C. Taylor.

Treasurer Welsh submitted the following report:

January 6th, 1923.

To the Council of the
Michigan State Medical Society,
Gentlemen:

The following will convey to you the amount of funds of the Michigan State Medical Society in my hands for the year ending December 31st, 1922.

Citizens Telephone 5% Bonds, Numbers	
139 and 140.....	\$2,000.00

The following will convey to you the amount on hand in the Defense Fund for the year ending December 31st, 1922.

U. S. Liberty Loan Bonds, Second Issue
 Converted 4½%, No. A-00015756.....\$ 500.00
 Holland St. Louis 8% Bond, No. M-757..... 1,000.00
 Total\$1,500.00

Respectfully submitted,
 D. Emmett Welsh, Treasurer.

January 15, 1923.

F. C. Warnshuis, M. D.,

Secretary, Michigan State Medical Society.

Report of Committee on Cripples appointed to meet with Committee representing Rotary Clubs of Michigan.

The first meeting of these two Committees was called for September 16, 1922, but owing to inability of some members of the Rotary Committee to be present, the meeting was postponed.

The second meeting was requested by Chairman Van de Walker of the Rotary Committee to take place October 27, 1922, but owing to the meeting of the American College of Surgeons of Boston on this date, your Committee was unable to attend.

The third date suggested by Mr. Van de Walker was November 3, 1922, but owing to the necessity of our Chairman being away from the city, it was impossible to attend at this time. One of the other members of your Committee was requested to meet with the Committee of the Rotary Clubs on this date.

Similar work to that suggested by the Rotary Clubs of Michigan is being carried on by the Rotary Clubs of Ohio in conjunction with the Committee representing the Ohio State Medical Society, accordingly our chairman went to Toledo on September 12, 1922, to meet with members of the Committee of the Ohio State Medical Society, to discuss the matter of caring for the cripples. Other meetings with members of this Ohio Committee and our Chairman took place on October 4, 1922, and on December 15, 1922, the Minnesota State Hospital for Cripples at St. Paul was visited.

Owing to the advice and knowledge gained from these discussions, we feel better able to handle the questions which may arise.

We have advised Mr. Van de Walker that we shall await word from him as to the time and place of meeting of our respective Committees.

We feel that the Rotary Clubs of various states are doing a notable work and it is our desire to co-operate with them to attain the greatest good.

We have at hand a consensus of all cripples in the various State Institutions of Michigan.

Respectfully submitted,
 A. D. LaFerte, Chairman.

COMMITTEE ON CIVIC AND INDUSTRIAL RELATIONS

If the Committee on Civic and Industrial Relations is to do worth while work its duties and its limitations must be defined by this Council.

Are we expected to make a campaign, when the Publication Committee announce that they will remain absolutely neutral and that means that the Committee can expect no active support from its State Journal? Are we expected to limit our activities to such matters as have been sealed with the approval of the State Health Commissioner?

It is in no spirit of sarcasm that these questions are put before the Council. The Chairman asks for positive information.

We expected this year to take up the question of Paternalism in Medicine as shown in the Shepard-Towner bill. Much time and some money had been spent in securing data. We expected to go into every County Society with this information, showing what this bill would mean financially, morally and medically to the people of this state.

Some weeks ago the Chairman received a letter from the secretary of this Council, stating that State Board of Health Commissioner Olin wanted no fight made against this bill in the Legislature, for fear that other health bills might be hurt. And that, anyway, he, the Health Commissioner, had already accepted certain of the law's provisions for Michigan.

Your secretary asked for an opinion as to what should be done. To which I replied promptly, fight and let other health legislation stand or fall on its merits. The next issue of the Journal proclaimed neutrality and the Secretary sent his data on to me with word that it was up to this Committee.

Frankly, gentlemen, what is there to do? With neutral Journal, with a State Commissioner of Health and his paid cohorts fighting for paternal medicine—with his unanswerable argument that even our publication committee refused to commit itself as against the measure—what could your Committee say? In the health insurance fight, we continually met the charges from state paid health board men that we were afraid that our business would be hurt—that we were cheap seekers after notoriety—that we were not the friends of suffering humanity.

Today we meet the charge that at best the M. D. is but a first aid; that the real responsibility for health rests on the Sanitarian. If you do not believe it read the speeches being made every day by state paid officials.

If you think health insurance is a dead issue, ask the secretary of the Michigan Manufacturers' association if that is not included in the bills they expect to be compelled to fight in this legislature. All of which is in the province of the Legislative Committee.

I have no report to make of work done by this Committee, saving as it backed up the work of this Council in opposing the Super-Education of Nurses or the education of Super Nurses at the University Hospital. Our hands have been tied and I ask this Council to untie them if good, honest, effective work, unhampered by political health board men, is to be done by the Committee backed up by all the power of this Council and its committees. This Committee is not trying to shirk any work. It is not afraid to meet an issue, but it does demand that it receive the active support of the Council and of its official organ.

George Frothingham.

Adjournment was taken at 11:45 P. M. to meet at 9:00 A. M., January 17th.

SECOND SESSION

The Council was called to order at 9:00 A. M., January 17th by Chairman Seeley with the following present: Clancy, Seeley, Jackson, Randall, DuBois, LeFevre, Dodge, Welsh, Hume and the Secretary.

Consideration was directed to the report of the Committee on Civic and Industrial Relations. On motion of DuBois, supported by Clancy, the Chairman of the Committee on Civic and Industrial Relations was directed to call a meeting of his Committee within thirty days and to undertake a campaign of activity that may be determined by the Committee and in compliance with the by-law outlines the duties of that Committee.

SHEPARD-TOWNER BILL

Moved by DuBois, supported by Randall,

that: Be It Resolved, that the members of the Michigan State Medical Society are opposed to the provisions of the Shepard-Towner law. That the Publication Committee of the Journal be instructed to present through the Journal the reasons for opposition, so that our members may become better acquainted with the provisions of this law and learn of its ultimate scope. That the Committee on Legislation and Public Policy be instructed to oppose any acceptance of this act by legislature.

Carried.

SECRETARY-EDITOR'S ANNUAL REPORT

To the Chairman and

Members of the Council,

Gentlemen:

I am once more privileged to submit to you and through you, to our membership, my annual report as your Secretary-Editor for the year of 1922, ending on Dec. 31st.

I emphasize the fact that the recorded statements contained in this report represent the combined activities of our component county societies and reveal the achievements of a co-operative membership.

FINANCIAL STATEMENT

I submit herewith the financial statement and certified auditor's report of the Society's financial receipts, expenditures and resources.

To the Council of the Michigan
State Medical Society,

Dr. F. C. Warnshuis, Secretary,
Grand Rapids, Michigan.

Gentlemen:

Pursuant to request we have audited the books of account and record of the Michigan State Medical Society for the year ended Dec. 31st, 1922 and submit herewith our report.

The following schedule shows in a condensed form the results of the financial operations of the Society for the year ended Dec. 31st, 1922, comparing them with like operations for the year ended Dec. 31st, 1921.

JOURNAL INCOME

	Year Ended Dec. 31, 1922		Year Ended Dec. 31, 1921	
	Amount	Per Cent	Amount	Per Cent
Subscriptions, re- prints, sale of				
Less: Journal and advertising, etc.	\$12,663.43	100.00%	\$12,449.78	100.00%
reprint expense.	12,240.04	96.65	14,953.40	120.10
Profit—Loss—on Journal publi- cation	\$ 423.39	3.35%	\$ 2,503.62	20.10%

DUES AND OTHER INCOME

Membership dues, etc.	\$ 3,019.52	100.00%	\$ 2,996.95	100.00%
Less: annual meet- ing, society ex- pense, etc.	3,441.11	114.29	4,166.50	139.02
Excess of society expense over dues, etc.	\$ 421.59	13.96%	\$ 1,169.55	39.02%
Net profit—loss..	\$ 1.80		\$ 3,673.17	

A statement of the assets and liabilities of the Society as of the close of business Dec. 31st, 1922, is given elsewhere in this report subject to the following comments:

Cash on deposit at Dec. 31st, 1922, was verified by correspondence with the Old National Bank. All recorded cash receipts for the period audited were compared with the bank deposits as shown by the bank statements and found to agree. All recorded cash disbursements were found to be supported by cancelled bank checks, invoices, or other data on file.

We did not correspond with the debtors to verify the accuracy of the amount of the accounts receivable, but we took a trial balance of the individual accounts and classified them as to date of charge as follows:

December, 1922	\$424.81
November, 1922	74.32
October, 1922	52.92
July 1st to September 30th, 1922.....	100.01
April 1st to June 30th, 1922.....	72.17
January 1st to March 31st, 1922.....	33.25
Prior to January 1st, 1922.....	119.50
Total	\$876.98

Securities owned, represented by bonds of the Citizens Telephone Company, were verified by inspection.

Full provision has been made, as far as we could ascertain, for all known liabilities of the Society at December 31st, 1922, for unpaid purchases, expenses, etc.

We hereby certify that we have audited the books of account and record of the Michigan State Medical Society for the year ended December 31st, 1922, as kept by the Secretary-Editor, Dr. F. C. Warnshuis, and that, in our opinion, based upon the records examined and information obtained by us, the accompanying statement of assets and liabilities is drawn up so as to set forth the correct financial position of the Society at the close of business December 31st, 1922, and that the relative operating statement is correct.

Very truly yours,

Ernst & Ernst.

STATEMENT OF ASSETS AND LIABILITIES MICHIGAN STATE MEDICAL SOCIETY ASSETS

(As of the Close of Business, December 31st, 1922.)

Cash—	
Old National Bank.....	\$ 704.93
Accounts Receivable—	
Due from Subscribers, Adver- tisers, etc.	876.98
Securities Owned—	
Citizens Telephone Company 5% Bonds	2,000.00
	<u>\$3,581.91</u>

LIABILITIES

Accounts Payable—	
Unpaid Purchases	\$ 144.49
Advances for Reprints.....	98.66
Due to Defense Fund.....	186.00
Net Worth—	
Balance January 1st, 1922	\$3,099.96
Reserve for expenses of Legislative Com- mittee restored to Net Worth	51.00
	<u>\$3,150.96</u>

Add: Net Profit for Year ended Decem- ber 31st, 1922.....	1.80	3,152.76
		<u>\$3,581.91</u>

INCOME AND EXPENSE

MICHIGAN STATE MEDICAL SOCIETY

(For the Year Ended December 31st, 1922).

INCOME

Journal Subscriptions and Sales	\$ 5,729.15	
Advertising Sales	5,890.28	
Reprint Sales	1,044.00	
Membership Dues	2,824.55	
Interest Received	194.97	\$15,682.95

EXPENSE

Journal Expense	\$11,182.86	
Reprint Expense	1,057.18	
Society Expense	2,558.75	
Annual Meeting Expense.....	531.75	
Expense of Delegates to A. M. A.	265.46	
Miscellaneous Expense	85.15	15,681.15

NET PROFIT\$ 1.80

For the first time since 1918 we are able to report a financial gain. While this gain is small it is indicative of the fact that we have been able to finance our obligations without calling upon our membership for increased dues. For comparative purposes we submit the following exhibit:

	1921	1922	Loss	Gain
Dues	\$2,676.05	\$2,824.55		\$148.50
Advertising	5,779.57	5,890.28		110.71
Journal Sales	5,428.45	5,729.15		300.70
Interest	298.10	194.97	103.13	

THE JOURNAL

During the year 36,250 copies of the Journal were mailed to our members and subscribers. This twenty-first volume contained 528 pages of reading matter and 330 pages of advertising. The total cost of the Journal was \$11,176.21. The total earnings were \$11,454.36, thereby exhibiting a net profit on the Journal of \$278.15. This profit is in pleasing contrast with the loss of \$2,503.62 reported for 1921. The Journal was larger in size than that of 1921 and was published and distributed at \$1,273.57 less cost than in 1921.

The net advertising receipts were \$5,924.63, an increase of \$145.06 over last year, and represents the largest advertising revenue that the Journal has ever earned. Because of increased circulation, our advertising rates have been increased. This increase became effective on January 1st and should enable us to increase our earning revenue during 1923, provided that patronage of our advertisers by our members enables us to hold our contracts.

The above financial comment on the Journal verifies the opinion that was expressed in our last annual report, at which time we made the statement that we felt justified in concluding that we had at last weathered the financial storm. While we are gratified that this has been confirmed, it must not be presumed that during the coming year we can relinquish our alertness to the publication's financial welfare with a belief that it will remain self-supporting.

As to the value of the Journal we make no comment. Our endeavor has been to edit our official publication so that it will reflect credit to our organization. With the means at hand it has been possible to keep a standard that commends the esteem and respect of the medical journalistic world. At no time have we been content, nor have we felt satisfied, that the Journal had attained perfection and that it was all that it could be made. Necessity has compelled us to desist from instituting a larger department of original articles, a Clinical Department, a Department devoted to

Radiological and Mechanical Therapeutics and an editorial department on the Progress of Scientific Medicine. It must be perceived that such enlargement will immediately add to the value of our publication and will go far to place it above other similar journals. It is our ambition to institute these departments just as soon as our finances permit and the Publication Committee feels that our income will warrant their establishment.

To cause the Journal to serve our membership as it has served in the past and to further organizational activities is constantly demanding more time, thought and effort. It is difficult to convey all that is entailed in editorial management. We have at all times sought to meet up to the wishes of the majority of our members. We have endeavored to cause the Journal to be a medium for the publication of our members' original articles and reports. We regret that the lack of space has compelled us to forego the publishing of some valuable articles and also that there has been vexing delays in the appearance of other articles that were submitted. We have allotted as much space as possible to the minutes, notices and activities of allied medical organizations in the state and sought to aid them in so far as it is possible. In the editorials and editorial comments it has been our purpose to make suitable comment and to record reasonable opinions upon passing events that are of concern to the profession. Likewise, it has been our purpose to record the achievements of our component county societies and to cause the news notes to record the activities of our members.

We desire to draw attention to and express our appreciation for the valued assistance that has been contributed by our associate, Dr. Guy L. Connor. He has been faithful in submitting the news items pertaining to Detroit and vicinity. In addition he has always cheerfully responded to every request that has been made of him. This co-operation on his part has been of distinct aid to the Journal and has enabled it to be of greater service to our society.

We reiterate the conclusion that the Journal contributed immeasurably to the amalgamating of our organizational prestige and influence while at the same time it holds our members in intimate contact. It aids in keeping them abreast with medical progress.

SOCIETY WORK

The following list records our membership by county societies and represents the membership in good standing on December 31st, 1922. These figures have been confirmed by reports submitted by County Secretaries during December.

County Society	Members 1921	Members 1922	Loss	Gain	Number Delinquents	Non-Members Eligible	No. of Meetings	Average Attendance
Alpena	21	12	9	0	2	7	10	
Antrim Charlevoix, Emmett	14	12	2	18	3	0	0	
Barry	17	16	1	3	12	26		
Bay	62	63	1	3	1	5		
Benzie	8	8	0	0	1	1	5	
Berrien	37	36	1	5	29	12	14	
Branch	17	14	3	0	6	5	8	
Calhoun	100	94	6	6	10-12	9	43	
Cass	7	7	0	0	0	0	0	
Cheboygan	3	0	3	0	0	0	0	
Chippewa	15	20	5	0	0	0	0	
Clinton	11	15	4	10	10	3	5	
Delta, Dickinson ..	20	22	2	0	0	10	12	
Iron	11	13	2	10	0	6	9	
Eaton	17	11	6	25	25	1	5	
Genesee	112	114	2	0	0	22	57	

Gogebic	12	21	..	9	0	2	10	15
Grand Traverse, Leelanau	24	21	3	.	0	4	11	12
Gratiot, Isabella, Clare	36	35	1	.	1	5	8	12
Hillsdale	21	19	2	.	2	9	4	12
Houghton	49	39	10	.	7	6	12	14
Huron	18	4	12	.	13	13	7	3
Ingham	85	79	6	.	8	10	14	29
Ionia	21	17	4	.	6	10	3	12
Jackson	57	65	..	8	5	18-20	6	45
Kalamazoo, Allegan, Van Buren	112	117	..	5	6	?	19	41
Kent	175	174	1	.	12	10	14	60
Lapeer	23	10	13	.	..	..	..	..
Lenawee	28	27	1	.	..	..	..	..
Macomb	26	30	..	4	..	..	..	..
Manistee	12	8	4	.	3	5-6	4	8-10
Marquette	38	36	2	.	2	37	4	15
Mecosta	14	18	..	4	0	0	7	12
Menominee	7	9	..	2	0	4	12	15
Midland	6	6	0	0	0	2	5	5
Monroe	25	27	..	2	0	2	8	12
Montcalm	17	16	1	.	4	?	2	14-15
Muskegon	56	53	3	.	1	2	11	20
Newaygo	11	10	1	.	1	2	8	7
Oakland	54	46	8	.	28	12	12	23
Oceana	9	9	0	.	0	1	7	7
O. M. C. O. R. O.	9	10	..	1	..	..	..	..
Ontonagon	8	8	0	0	0	1	1	3
Ottawa	35	34	1	.	0	4	8	21
Saginaw	60	43	17	.	1	35	12	30-35
Sanilac	16	16	0	0	2	4	2	12
Schoolcraft	7	7	0	0	0	1	2	6
Shiawassee	27	27	0	0	..	..	..	..
St. Clair	46	49	3	.	..	..	..	..
St. Joseph	14	4	10	.	..	..	..	..
Tri	21	20	1	.	1	0	10	15
Tuscola	25	26	..	1	2	2	6	15
Washtenaw	98	104	..	6	12	25	3	30
Wayne	1169	1126	43	.	93	200	32	250
<hr/>								
	2936	2827	178	58	287	535	352	970

One year ago our membership was 2,936 as compared with the present total of 2,827. During the year death caused the loss of 35 members as follows:

Dr. Wadsworth Warren	Dr. Thomas A. Dewar
Dr. Christ Theoderoff	Dr. J. W. Schureman
Dr. Andrew Forster	Dr. J. M. Easton
Dr. Frank W. Martin	Dr. Joseph Corgan
Dr. R. E. Stocker	Dr. Jason W. Jackman
Dr. Edna Trewin	Dr. George E. Moore
Dr. John C. Salmen	Dr. George W. Orr
Dr. Jessie V. Ballard	Dr. Jacob Oosting
Dr. F. A. Rutherford	Dr. David Inglis
Dr. A. M. Gerow	Dr. Elam F. Srygley
Dr. Charles Douglas	Dr. C. B. G. deNancrede
Dr. R. E. Finch	Dr. Chas. T. McClintock
Dr. William J. Duff	Dr. Chas. B. Morrell
Dr. Arthur A. Metcalf	Dr. James P. Suiter
Dr. Frank R. Burdeno	Dr. Ansley Smith
Dr. Peter S. Mallard	Dr. R. R. Cummings
Dr. Russell W. Brown	Dr. A. W. Adams
Dr. J. C. Turner	

The tabulated figures merit more than passing consideration. I direct attention to the following 100 per cent county societies who form our Honor Roll:

Benzie, Delta, Genesee, Mecosta, Ontonagon, Tri. Exceptional credit is due to the officers of these societies and to the membership that composes them for their loyalty to our state organization. Distinguished credit must likewise be accorded to the following societies for their activities, membership and the number of meetings held:

Alpena, Bay, Berrien, Calhoun, Delta, Genesee, Gogebic, Grand Traverse-Leelanau, Gratiot-Isabella-Clare, Houghton, Ingham, Jackson, Kalamazoo, Kent, Mecosta, Menominee, Midland, Marquette-Alger, Monroe, Muskegon, Oakland, Oceana, Ottawa, Saginaw, Tri, Tuscola, and Wayne.

We are unable to record a 100 per cent Councilor District. It is apparent that in each Councilor District there is one or more county society that is dormant or has fallen by the wayside. The dispo-

sition of such units must be determined by the Councilor. It is recommended that this problem receive the attention of this meeting.

Referring again to the statistical report, there are the following county societies that report a large number of doctors who are eligible to membership, but who are not so affiliated. It would seem wise that some action be taken that will witness the admittance as members of the eligible doctors so listed.

Berrien	29	Ingham	10
Calhoun	12	Ionia	10
Clinton	10	Jackson	20
Eaton	25	Oakland	12
Hillsdale	9	Saginaw	35
Huron	13	Washtenaw	25

There are also some counties that report from one to six doctors who are eligible. It would consume but little effort to bring these counties into the 100 per cent list. In Wayne county it is estimated that there are 200 eligible, non-members. As intimated in the January Journal, a splendid campaign is being waged to secure these men as members and it may be predicted that before the close of the year the majority of them will be enrolled.

Again we refer to the tabulated report and note with considerable concern that there are a total of 285 delinquent members. There are 11 societies that neglected to send in their annual report after three requests for such reports had been made. Seven counties held no meetings whatever during the year, three held only one meeting, four only two meetings. These and the other facts revealed by this summarization of the county societies merit more than passing consideration. I await your instructions as to what course to pursue in dealing with this problem of our society.

ANNUAL MEETING

No place was designated by the House of Delegates for the holding of our next annual meeting. An invitation was received from the profession of Ingham county. This invitation was referred to the Council with the instruction that the Council be empowered to designate the place and the date for the next annual meeting. The Council's attention is called to this action taken by the House of Delegates.

JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION

In response to the recommendation in our last report the above committee was organized during the year. Its activities have been reported from time to time in the Journal and today, as you attended the stated meeting of the Committee, you gained an insight as to what it has accomplished and will accomplish during the coming months. The House of Delegates approved these activities and the plans that the committee is developing. This work is an organized activity that cannot be neglected. It is imperative that the work should go forward with greater impetus and this impetus must emanate from the individualistic effort of the doctors of Michigan. To that end I present to you the following request:

1. That the plan, its purpose and its scope be again called to the attention of our county society officers in a special communication signed by the President and Chairman of the Council.

2. That the Council urge upon local county society officers that they inspire and bring about the holding of at least three such public meetings before the summer months.

3. That the Joint Committee be requested to arrange for a combined public meeting in several

of our larger cities and to assign as speakers for these meetings at least three men who will present the selected topics that the Committee may indicate.

The publicity thus attained will be desired and of material benefit to this educational plan. 'Tis no idle challenge which we physicians throw out to the world when we claim that our mission is of the highest and of the noblest kind, not alone in curing disease, but in educating the people in the laws of health, and in preventing the spread of disease. Of late years our record as a body has been more encouraging in its practical results than those of the other learned professions. It is obligatory that we be not distanced. It is not visionary to conclude that in the education of the public in matters pertaining to the science and practice of medicine we possess a movement pregnant with wonderful potentialities.

THE TRAINED NURSE PROBLEM

The American Medical Association has a Committee, appointed this year, that is studying the problem of the trained nurse, her education, and her relationship to the public, patient and physician. This Committee will render its report at the San Francisco meeting. During the year this problem has confronted our State Society and particularly in regard to a proposed plan for the establishment of a new nursing school at the University of Michigan. Your officers and representative members, after a conference, issued a pronouncement upon the subject. This was endorsed by fifteen county societies representing 1,809 doctors and must be accepted as their deliberate judgment and opinion.

Subsequently, President Dodge addressed a representative body of nurses and health officials and outlined the profession's viewpoint.

The subject is one of vital interest to the public, our hospitals, the nurses and the medical profession. Our society cannot ignore the situation. It must not neglect participating in the solution that is sought. I do not believe that we are eager to assume a domineering position. Our sole object should and must be to aid in the establishment of a definite plan and policy of nurse training, nursing service and nurse assistance for our hospitals, for the public, for public health activities and for our doctors. We must become active in bringing about a greater, broader and more practical plan for the utilization of a nurse's service. We must likewise discountenance the warping of the services of nurses into channels that are being excavated by would-be uplifters, idealists and mentally distorted individuals who are pursuing a course of activity that is not conducive to perpetuate the accepted relationship of physician and nurse in the eradication or treatment of human ills and defects and our problems of health conservation. All to their own aggrandizement and the people's loss.

It is recommended that the Council authorize the appointment of a Committee by the President to confer with similar committees appointed by our State Hospital Association, States Nurses' Association, State Nurses' Registration Board and State Commission of Health. That our Committee seek the appointment of such committees by these other organizations and bring about the holding of a conference for the purpose of outlining a plan that will inspire uniform support and acceptance in dealing with this important problem. Certainly it is an undertaking that must command our intensive concern and interest.

COMMITTEE WORK

President Dodge is to be commended for inviting to this meeting the Chairmen of our Standing

Committees for the purpose of discussing with them the scope and plans of their committee activity. This is not a one-man society, nor does its achievements, its activities, rest alone upon your President, the Council or your Secretary-Editor. That which we seek, the objects of our organization and the enhancement of the welfare of our members as well as acquitting ourselves of our medical responsibilities to the public devolves upon our Committees and our combined membership. The guiding policy and the field directorship must be delegated to the Chairmen of our Standing Committees who merit our support and assistance. It is sincerely hoped that the plan of frequent conferences with them will become an established precedent. The assurance is again repeated that the services of your Secretary are at the command of our Standing Committees. We have ever sought to refrain from causing this office to encroach upon their work, still we are ever ready to accord to them every possible assistance.

PUBLIC HEALTH ACTIVITY

The work that is being done by the State Commission of Health and its state and local officials is not a matter that should be permitted to carry on without our intimate association and co-operation. It is essential and proper that we, as a medical organization, should remain at all times familiar with the purposes and scope of the undertakings instituted by these health officials and the State Commission. They impinge and inter-relate with the daily work of our members. The prevention of disease, the reduction of mortality, the enactment and enforcement of health laws and the rules and the conservation of the physical welfare of the infant and school child are and ever will be obligations that must be assumed and participated in by the medical profession. We cannot unconcernedly delegate these responsibilities to state and local officials. We would be more than remiss did we by our disinterestedness hold ourselves aloof from such public health work.

On the one hand it is our duty to become vitally and actively interested in the work of our health officials. On the other hand our health officials must perceive that they cannot attain the desired results without the aid and assistance of the physician. The need for expression of mutual interest and combined labor is paramount.

We are aware that opinions have been expressed regarding the usurpation of the physician's work on the one hand and the physician's negligence, lack of knowledge and failure to assume his full responsibility to the public on the other hand. Such a belligerent attitude cannot, must not be permitted to exist or grow.

It is recommended that the necessary steps be taken that will bring about an affiliation and co-ordination of the physicians and the health departments of this state by the appointment of a conference committee that will secure an inter-relationship and understanding thereby consummating the enrollment of a two-fold force that will be productive of the greatest good in public health work.

CONCLUSION

I have no further comments or recommendations. Our society, at the present time is a community of interest that is composed of doctors who we believe are ready to subscribe their efforts to any movement that has for its purpose the attainment of our objects or organization, the advancement of the standards of practice, the rendering of that type of service to which the public is justly entitled and to the enhancement of their individual welfare. It is therefore incumbent upon

us to recognize the trust that has been imposed and to formulate our leadership activity so that it may obtain the subscription of our individual members and component units to attain these ends. In this work we must emphasize at all times and in all places that the medical profession is above all a profession of service to mankind. While, in the interest of the physician, of his family, his fellow physician and his patients, it is his right and duty to exact a monetary return for his labors that is commensurate with the long, expensive period of preparation which has been required of him and the high degree of skill thus acquired and that he makes the most grievous and fatal mistake, if he yields to the spirit of excessive commercialism which is abroad, seemingly in more intensive degree than ever before, and makes "money-taking" his dominant thought.

It is education in regard to this commercial relation to the public that must be inculcated. It is the presentation of his largest avenue of usefulness in the field of the prevention of disease that must be demonstrated and the doctor's increased activity inspired in that field. It is for organized medicine to direct and hold leadership in this department of medicine—that is our paramount problem. It is our bounden duty to bring about the assumption of this obligation by our profession in Michigan and cause it to assume the leadership to which it is rightly entitled in our contact with the public and the elimination of disease.

It is to that end that we pledge our energy and effort, at the same time recording our appreciation for having been permitted to serve as your Secretary-Editor these past eleven years.

The following action was taken on the Secretary-Editor's Annual Report.

1. Annual Meeting. The following telegram was read:

Lansing, Mich., Jan. 16, 1923.

Dr. F. C. Warnshuis,
Michigan Union Bldg., Ann Arbor, Mich.

My brother's funeral prevents attendance, Lansing Society decided to defer entertaining State Society until we have better hotel accommodations.

L. W. Toles.

Moved by Jackson, supported by DuBois, that the Chairman appoint a Committee of three with power to select the place for the

annual meeting and to designate its date. Carried. The Chairman appointed Jackson, DuBois and Randall as such Committee.

2. Recommendation in regard to the Joint Committee on Public Education was approved.

3. Recommendation in regard to the Trained Nurse Problem was approved.

4. Financial audit and accounting was accepted.

On motion of DuBois, supported by Clancy, an honorarium of \$100.00 was voted to the Treasurer.

On motion of DuBois, supported by Clancy, the Treasurer was directed to keep the funds of the Medico-Legal Committee and to pay them out on voucher signed in the manner provided by the by-laws.

On motion of DuBois, supported by Clancy, the salary of the Chairman of the Medico-Legal Committee was fixed at \$800.00 for the coming year.

On motion of Jackson, supported by LeFevre, the Secretary was directed to inform Regent Sawyer in regard to the expressed wishes of the County Societies, Legislative Committee and Council that the University Hospital be again placed under the supervision of the Medical Department of the University and to bring the request before the Regents urging that such action be taken by the Regents.

On motion of Randall, supported by Jackson, the Secretary cast the ballot of the Council for D. E. Welsh as Treasurer for the ensuing year. The Chairman declared Dr. Welsh elected.

On motion of Randall, supported by DuBois, the Chairman cast the ballot of the Council for F. C. Warnshuis as Secretary-Editor for the ensuing year and declared the election of F. C. Warnshuis to that office.

Adjourned.

F. C. WARNSHUIS,
Secretary.

AMERICAN MEDICAL ASSOCIATION ANNUAL MEETING

San Francisco—The Week of June 25th—1923

MAKE YOUR HOTEL RESERVATIONS NOW.

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

J. B. Jackson, Chairman.....Kalamazoo
R. C. Stone.....Battle Creek
J. McLurg.....Bay City
R. S. Buckland.....Baraga

Editor and Business Manager

FREDERICK C. WARNSHUIS, M. D., D. Sc., F. A. C. S.
Grand Rapids, Mich.

GUY L. CONNOR, M. D., F. A. C. P.
Associate Editor, Detroit.

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All communications relative to exchanges, books for review, manuscripts, news, advertising, and subscriptions are to be addressed to F. C. Warnshuis, M. D., 4th Floor Powers Theater Building, Grand Rapids, Mich.

The Society does not hold itself responsible for opinions expressed in original papers, discussions, communications, or advertisements.

Subscription Price—\$5 per year, in advance

FEBRUARY, 1923

Report Malpractice Threats Immediately to Doctor F. B. Tibbals, 1212 Kresge Bldg., Detroit, Mich.

Editorials

OPINIONS ON NURSE TRAINING

At present writing (Jan. 1st) fifteen county societies, representing 1809 Michigan doctors have gone on record as opposing the establishment of a new training school for nurses at the University Hospital. The same number of societies and doctors have requested the Regents to return the University Hospital to the control of the Medical Faculty. As our county societies hold their meetings, these resolutions are being adopted and forwarded to the Regents. It is anticipated that every county society will make this request.

The matter is now up to the Regents and we cannot very well perceive how they can ignore these recommendations. It is an expression of opinion that must bear weight, especially, when it is apparent that the opinions arise from physicians who will secure no individual benefit or profit by reason of compliance with the recommendation. The University Hospital and the Medical Department of

the University will be the only beneficiaries. It will increase the efficiency and elevate the administrative policy of the hospital and that is our only desire.

It is not unreasonable and within our right to request Regent Sawyer, by reason of this expression, to bring this question before the Board of Regents and to use his influence to cause this transfer to be authorized. The profession of the state are of the opinion that such action should be taken. It is also hoped that the matter be not delayed and that it will be unnecessary to resort to any other measures to secure the realization of this recommendation. It must be recognized that this is not an idle request and that the profession is widely concerned and emphatically in earnest.

SPECIAL TRAIN TO FRISCO—A. M. A. MEETING

GOLFERS—ATTENTION!

The 1923 meeting of the American Medical Association is to be held in San Francisco, the week of June 25th. Splendid features are being developed for this meeting. In addition, the call of the west creates an impelling reason for attending this annual meeting. To a certain degree the railroad journey is a tiresome travel unless it is varied and interrupted. For the purpose of relieving the monotony of the railroad trip we presented an itinerary to a transportation company with the request that they outline the details. We are in receipt of a routing and schedule that presents attractive features. It is, in general, as follows:

1. A special, de luxe, private train traveling on special schedule and composed of baggage cars, compartment sleepers, dining cars, club car, club observation car with piano, phonograph, barber, valet and maid. Latest modern equipment and service.

2. The train will leave Chicago, June 17th, at 10 P. M., and reach Frisco at 7:30 A. M. the following Saturday.

3. Each day a stop of 7 to 8 hours will be made at a well known golf course and 18 holes of golf will be played. Tournament matches will be arranged. Time for a shower, etc.

4. The expense will be \$235.00 and includes: return trip railroad ticket, half of a Pullman compartment, all meals enroute, all tips, taxi hire to and from golf clubs, caddy fees, green fees, cleaning of clubs, transportation of clubs and baggage transfer. Only extra is your return Pullman fare and selection may be made of several return routes.

Arrangements have been made for the services of a caddy master, who will look after

your clubs. Automobiles will be waiting on arrival at each stop.

Your wife is welcome, and if she does not play golf, arrangements have been made for her for a sight-seeing automobile trip at each stop. For tennis players, courts will be available. On one day we remain for a dinner dance at a well known tavern.

Here, then, is an attractive trip with a daily opportunity to indulge in your sport hobby. Entertainment will be provided while aboard train enroute. The cost is but \$55.00 more than a regular trip of through travel. For \$55.00 you have a wonderful five days outing on a comfortable de luxe train, and travel with agreeable associates.

If this appeals to you, write us for tentative reservations and further details. Do you want to be counted in? If so, write now and state how many there will be in your party.

F. C. WARNSHUIS.

DUES—1923

Your 1923 dues to your local and state society are now due. We urge that you promptly remit them to your county secretary. Please do not delay, or, make it necessary to camp on your trail to collect them. Send in your check today. State society receipts will be mailed as rapidly as it is possible to get them out. We trust that 1923 will be characterized by a prompt payment of your annual dues. Do it now!

STATEMENT

When the Publication Committee and the Editor announced, a few issues ago, that they would assume a neutral position in the discussion of the Sheppard-Towner law and would hold the editorial pages of the Journal open for our members to present their views and opinions, the Publication Committee and the Editor were without an expression of the views and wishes of our members. We did not desire to assume the responsibility of formulating the organization's attitude and policy. We were desirous of obtaining an expression and also instructions as to what definite attitude to assume. We felt it would be unjust to cause our personal views to be reflected in the editorial discussion and have them convey the society's position.

The Council has convened since that statement was made. The Publication Committee and the Editor have been instructed to oppose the Sheppard-Towner bill and to acquaint our members with the grounds for opposition. These instructions will be followed. With this

expression of organizational opinion emanating from those members of the Council who represent a majority of our members, thereby imparting their desires and with whose desires the Journal ever attempts to comply, we shall accord such editorial space in this and subsequent issues as to why we, as a profession, should oppose the enabling act that seeks to establish this type of public health officials activity into the domain of our State.

THE COUNCIL MEETING

Elsewhere in this issue will be found the minutes of the Annual Meeting of the Council, held in Ann Arbor on January 16 and 17. Our members are urged to read that detailed report as it imparts that which your officers are accomplishing.

The three outstanding features of the Council meeting and upon which there was long, detailed and considerate discussion, were: Legislative Activity, The Sheppard-Towner Law, and Medico-Legal protection.

In regard to legislation and the present session of the legislature we cannot, for obvious reasons, impart the discussion or reveal the details of plans approved. The assurance can be given to our members that we have an efficient committee. Further, that the Chairman of that Committee, Dr. Hume, is alert, on the job and in contact with legislative activity in Lansing. Our interests are being conserved. Our members must, however, if emergencies arise, be in readiness to respond to the calls made for assistance to our Committee.

In regard to the Sheppard-Towner Law the Council declared itself as opposed to the passage of any enabling act that would fasten the shackles of this undesired type of legislation upon the people of Michigan and the medical profession. The Council instructed the legislative committee to oppose the passage of any act that seeks to establish the provisions of this law for Michigan. It was realized that through the activity of the Commissioner of Health temporary application of this law had been established in Michigan and that his department is contemplating to adapt its activities to apply and carry out the intent of that law in Michigan after the enabling act is passed. How this law was temporarily accepted between legislature sessions, the part women are taking, and how they came to take this alleged part, how fictitious "matched appropriations" were juggled, how it is proposed to apply this act, are incidents and activities that form a different story and will be commented upon in due time.

The work of the Medico-Legal Committee

was approved and commended. It was also recognized that in certain parts of the state local conditions are permitted to exist that are inducing malpractice suits. Ways were devised for correcting such undesirable situations.

The presence of President Burton, members of the Medical Faculty of the University, Chairman of our Standing Committees and other guests created a conference group that was of material assistance to the Council in its deliberations. It was the expressed opinion that meeting was one of the most profitable sessions held by the Council.

SHEPPARD-TOWNER BILL

"Let me write the headlines and I care not who writes the articles, the power to sway people lies with me," said a newspaper man who knew human nature.

"Let me get a bill introduced with headlines of 'General Welfare,' 'Children,' 'Maternity,' 'Women,' and I can get any old appropriation through and can crucify the man who opposes me," says the astute politician, who also knows human nature.

It is time the practicing physician ceased being a neuter in state affairs. It is time that he notified the self-seekers, the professional well-farers and the political sanitarians, whoever and whatever they may be, that he is a force to be reckoned with, not a lump of putty to be molded to their wishes. The latest compliment paid the working physician is to place him in the high rank of "First Aid" to the Sanitarian. He is classed with the bright boy and girl scouts, when compared in importance with the Sanitary Engineer. It is all right for the physician to work 20 hours at a stretch; to go out on a zero night at 2 a. m.—to work holidays and Sundays—that is first aid, while his overlord, the Sanitarian, rests comfortably—cuts out his telephone, if it is too insistent; notifies one and all that office hours are 10 to 12 and 2 to 4—office closed on Sunday and holidays and at noon Saturday—with a good vacation season for rest and recuperation—with varied trips throughout the country for conferences. As one hard working physician put it, "We can go into the thick of the fight with a contagious disease in a sick room, while the Sanitarian pastes up his placards secure and safe on the outside." The physician is all right to make a decision which will spell life or death to a patient, but, when he asks for the power which should go with such responsibility he is scoffed at.

The Sanitarian has a place and a very important place in the medical sphere, but he

should not attempt to control the policies of the entire medical profession.

Time and again attention has been called to the fact that medicine is regarded as the entering wedge for socialism. Mr. Towner of the famous Sheppard-Towner Bill is said to be a lawyer and an authority on constitutional law. Why does not this shoemaker stick to his last? Surely there are thousands of widows and orphans who have been defrauded by unscrupulous lawyers—think of the suffering that has been entailed by losses of money by helpless ones, but we do not find a Sheppard-Towner Bill fighting for them. No, you find him attacking medicine—seeking to invade the sanctity of every home in the country—trying to place a colossal burden of tax on a people. Why? The answer is plain—to break down the constitutional dam which is all that stands between the people of the country and an autocracy.

Foiled on the Socialization of Medicine, the socializers seem to have found a splendid battering ram against constitutional rights in the so-called Sheppard-Towner Bill. Rock-bound New England, which produced John Quincy Adams, the man who dared, at the risk of his life, introduce into the congress of the United States a petition from a negro slave, is up in arms against this measure. The attorney general of Massachusetts has filed a bill to test the constitutionality of this bill in the Supreme Court of the United States.

What is this Sheppard-Towner Bill? It is called "an act for the promotion of the Welfare and Hygiene of Maternity and Infancy and for other purposes." The power is vested in a "Board of Maternity and Infant Hygiene." Its members are Grace Abbott, Chief of the Children's Bureau, Department of Labor; Hugh S. Cummings, (a citizen of Virginia) Surgeon General of the United States Public Health Service, and John J. Tigert, (a citizen of Kentucky), who is United States Commissioner of Education. This bill appropriates one million, four hundred and eighty thousand dollars for the fiscal year, ending June 30th, 1922, and the sum of one million, two hundred and forty thousand dollars for five years thereafter. Of this sum, \$50,000 is allowed the Bureau yearly for expenses, traveling, salaries, etc. The remainder is to be divided on a fifty-fifty basis between the several states who elect to accept its provisions and the United States Government. In accepting the terms, the State agrees to provide a certain sum for the purposes of the bill and provided the States do what the Bureau thinks right and proper, the United States will furnish a like sum. If the Bureau for any reason should not approve of

what the state does, it "can withhold the certificate authorizing payment to such state of the amount to which it is entitled."

The Massachusetts Bill filed by her Attorney General, says the plaintiff (Massachusetts) is informed and therefore avers that legislation by Congress, by which appropriations are made of funds to be paid for objects which are NOT NATIONAL but LOCAL, to those states which accept such appropriations and themselves appropriate equal amounts to be expended under the direction of some Federal Board, commonly designated "Federal Aid" legislation, *has been found or is believed to be an effective means of inducing States to yield a portion of their sovereign rights for the consideration offered; that unless checked by the Supreme Court on the ground of unconstitutionality no limit can be foreseen to the amounts which may be thus expended for matters of local concern, by statutes providing for the establishment of large federal bureaus with many officers for the performance of duties which are entirely beyond the authority conferred upon the United States by the Constitution.*"

This is what Massachusetts thinks of the Sheppard-Towner Bill as a menace to the liberties of the people of the United States.

This is what the governor of the State of Maine said in refusing to submit to the terms of the bill.

"The State of Maine will not sell its birth-right and principle, not expediency, has been the determining factor with me in the solution of this problem. The proffered five thousand dollars has been referred to as a free gift to the State of Maine, while in reality, the federal government is taxing the state to raise this money; and now in order to help our mothers and children, offers to pay back to the state, the trivial sum of less than two-thirds of one cent for each inhabitant. The people of Maine are willing and able to care for their own mothers and children and I have faith to believe that Maine men and women will do this rather than accept so-called gratuities from a Federal Bureau. Already we are overburdened with Federal interference and control and our citizens and industries are hampered by Federal inspectors and other officials from Washington. There is grave doubt as to whether or not the governor of a state has the power to accept the bill in question, even though Congress attempts to confer that power upon him. The governor of a state does not derive his authority from the federal government and a Federal Bill that seeks to confer new powers upon him is of questionable standing.

"It is apparent that the present bill is but an entering wedge for more radical legislation and

Maine's delegation in Congress, our Senators and Representatives should be urged to resist all further encroachment by the Federal Government. We should not encourage the centralization of power in Washington."

Five years more of such legislation, unchecked by the Supreme Court, and this country will present a spectacle of bureaucracy that will put Germany to shame and will be sweating under taxes which would make Nero green with envy. It will mean great armies of state paid officials—it will mean elections wholly in the hands of state paid servants and in the end it will mean the downfall of the republic, and if you doubt it, read your history.

This is what the Sheppard-Towner Bill means to every citizen of the State.

This bill is touted as the last note in welfare. Let us see what it will give to the twice-taxed citizen. This is what the Massachusetts Civic Alliance says it is:

"An anomalous bill which requires the states to establish extension course of lectures and consultation centers, but forbids the renting or purchase of any building in which to hold them. It employs nurses, but not for nursing. Its title pretends that it is for the public protection of infants, but the bill naively provides a method of protecting infants from its ministrations. It is for mothers, but it overlooks pregnant women and expectant mothers. It is for child bearing, but provides neither doctor, nurse nor midwife for obstetrics. It is advanced on the claim that it will reduce deaths of mothers and infants, but it makes no medical provision and employs no physician. What then is its object?"

To which we of Michigan can answer: It is a bill which claims to have the support of a majority of the Womens' Clubs, and yet it is safe to wager that not one woman in five hundred of the club members whose endorsement is claimed knows more of the bill than its title—headlines, if you please. We will go further and say that it is safe to wager that not one in ten of the officers of the clubs can state clearly the provisions of the bill. The headlines are working with telling effect—Welfare—Getting something for nothing. We can go still further and say in all truth that it is simply another raid on the supposedly weak part of the body politic, the medical profession, and by making a break in the dam at this point, in the name of alleged suffering humanity, the whole dam will go out and the country can be socialized and sovietized to the very limit.

This Sheppard-Towner Bill is a joke, albeit a serious one. It provides millions that more or less well trained individuals may go forth to lecture and hold conversations with expect-

ant mothers. These conversations are well illustrated in a story in the January Atlantic. The state conversationalist met the needs of a widowed mother with a tubercular child in this fashion.

"Well, surely, the company wont want to keep all of you here, for your debt. At the worst, they will take some of your bedding to pay for it. And there may be a heavy run of oysters. And thank you very much for giving me this information. Would you mind, if I look over this card, to see that I haven't forgotten anything? I am supposed to have an answer for every question." Mrs. Kazalski did not accuse her of indifference. She was scarcely conscious of Miss Egmont. Miss Egmont stayed a few minutes longer to get in detail the earnings of each member of the family since their coming, and the hours of work. Presently she left, HOPING things would go better, HOPING Katie would improve, suggesting a clinic at Baltimore, and then Mrs. Kazalski went back to her wash tub.

In a nut shell, the widow with the sick child could go to the doctors for free service, while the conversationalist got her questions answered and drew her pay for eight hours' work.

The Sheppard-Towner bill furnishes ample funds for these conversations, but it gives nothing else. It will not give the services of a physician—it will not provide for nursing—it will not provide for medicine—it will not provide for a bit of clothing for an infant—but it does provide good salaries and ample leisure for holders of conversations.

The State Health Commissioner has notified Michigan physicians that he has already elected to come under the provisions of the bill—he went further and asked that no publicity be given in the State Journal on the Sheppard-Towner bill, fearing it might hurt other health legislation. There is food for thought for the practicing physician in this. Is his State Society to be controlled by the Health Commissioner—is his wishes to govern the attitude of the official Journal? The Council of the State Society has met the issue in no uncertain way. Its Committees have been instructed to go out and fight—to tell the people of the State of Michigan what a menace this proposed bill is to their liberties.

It is time the issue was squarely drawn. For years, the physicians have been the butt of every uplifter and welfarer. It is time to give the lie to the cry that we fight only in behalf of our purse. For every fraction of a welfarer who works without money and without price, saving as notoriety is a price—you will find tens of thousands of working physicians who

give their time—give their money and give of themselves to the work of helping suffering humanity. They give without money and without price, without even the praise of the public, for the publicity which is life to the uplifter is professional death to the ethical physician.

As a measure, the Sheppard-Towner bill, with its empty promises is to make one smile. But to the citizen, the Sheppard-Towner bill with its untold possibilities for centralized power for bureaucratic control—for taxes piled on taxes for the benefit of the office holder at the expense of the worker—is a menace which should be met and wiped out.

George E. Frothingham,
Chairman, Committee on Civic
and Industrial Relations.

Editorial Comments

Insulin is not a specific for diabetes. It is an advancement in therapeutics, but insulin alone will never supplant careful dietary regulation.

The council appointed a committee empowered to select a place and designate the time for the holding of our next annual meeting. On account of the American Medical meeting in San Francisco the week of June 25th, the time required to attend that meeting it is proposed to hold our annual meeting in September. Definite announcement will be made next month. Section Secretaries are requesting that those desirous of reading papers before a section communicate with the secretary of the section in which they are interested.

The Council of the Wayne County Medical Society went on record in regard to health officers' activities as follows:

"That we are opposed to increased public health activities except as they refer to contagious diseases and dangerous to public health," and;

"That any increased public health activities have not increased the practices of physicians," and;

"That we are not in favor of the establishment of full time county health officers for all counties throughout the state."

A good, reliable investment banker does not deal in stocks, promotion schemes and other unsafe securities. His integrity and ethics must attain an accepted standard set forth by a national organization and if they are of such standard he is a member of the national organization. Let us impress this upon all doctors. Knowing this, if you have funds to invest, you will financially profit if you follow their advice. Avoid and have no dealings with the solicitors that call on you with schemes for large profits and easy money.

At Holland, a year ago the traveling clinic held forth. People were urged to come in and be examined. The statement was made that reports on examination would be sent to the family physician. These reports were not sent. People examined would call on their family doctor and ask if he had heard from the state regarding their examination. The doctor was without these reports and so could only answer no. Just an incident, but does

it not prophesy what can be expected of such official controlled clinics?

This year the clinic again was booked for Holland. On a certain day when children were to be examined the State Physician was ill and could not conduct the clinic examinations. Was the clinic postponed? No. The state nurse posed as a doctor and she made the examinations. This same nurse was introduced as a doctor at a noon luncheon club that met that day. We wonder how we can maintain faith when such practices are indulged in. Are the interests of doctors being conserved?

In 1922, the deaths of 2,513 physicians was recorded. This is equivalent to an annual death rate of 17.73 per thousand. Five hundred and thirty-six occurred between the ages of 51 and 60; 66 between the ages of 60 and 70, and 531 between 70 and 80. The greatest number occurred at the age of 66. Diseases were: Heart, 509; general, 344; cancer, 154; diabetes, 39; septicemia, 37; tuberculosis, 21; pneumonia, 180; cerebral hemorrhage, 234; nephritis, 125; senility, 456. Think it over. Some of the causes are preventable—do you care to make the effort?

At the Council meeting the discussion was directed toward activities of the State Health Commission. It seems to be the policy of the Commission to secure the addresses of newly married couples and to send them a series of letters congratulating them on their marriage, then that they undoubtedly look forward to a family, and urges the mother to join a local mothers' club, then if pregnant, to go and be examined at a pre natal clinic, and finally when the baby comes, to take the child to an infant clinic. Dr. Reuben Petersen, in citing this letter scheme, suggested that the Commission had possibly lost sight of another opportunity in this letter scheme and suggested that after the baby came the mother should be sent a letter and urged to join a "Laceration Club."

We cannot quite conceive the fairness and justification of this letter scheme. It is state interference and state influence seeking to herd the public into clinic channels and corral them for the clinic, state paid physicians. No, they say they don't treat, but only examine—but do they?

A pointed criticism may be recorded against physicians as a whole on account of their tendency toward unsystematic and superficial reading. Medical publications seek to keep doctors abreast with medical progress. Emphasis is laid upon proven theories and details of treatment that achieve greater and better results. One would think that when such authoritative information is imparted the active progressive man would adopt and apply these newer methods. Many do, for as a rule we are not all "rut" travelers. On the other hand we doubt that the census of "rut" travelers is small. Illustrative of which we recite a recent incident. At a county society meeting with some 22 doctors present, the discussion of the preventative treatment of goitre was engaged in. The work of Marine and Kimball was retold. Not one of those present knew anything about it. We have drawn attention to this treatment on several occasions. We also had a symposium on it at our Flint meeting. The papers of Crile and Kimball were published in *The Journal*. Notwithstanding, here is a group of 22 men who were entirely ignorant on the subject. It is one of the most important advancements in the treatment of goitre. It is a most effective preventative measure. Every doctor should be familiar with it and institute this treatment

amongst his patients. They are entitled to it. We wonder how many doctors in Michigan are equally ignorant on the subject. They need not be if they will but allot some time each day and thus pursue a systematic course of reading that will keep them informed in regard to the progress that is being made. This ignorance does not exist in regard to goitres alone. The State Commissioner of Health can recite many appalling incidents. We plan on publishing them at a future date.

SHEPPARD-TOWNER LAW

The Sheppard-Towner law is opposed and it's institution in Michigan is objected to for the following reasons:

1. It is a type of undesired "state medicine," state medicine being defined by the House of Delegates of the A. M. A. as: "Any form of medical treatment provided, conducted, controlled or subsidized by the federal or any state government, excepting such services as is provided by the army, navy or public health service, and that which is necessitated for the control of communicable disease, the treatment of mental disease, or of the indigent sick."

This proposed law conflicts with this definition in that provisions are made that the funds will be controlled and expenditures directed by the Federal Bureau of Labor. Further, that the law provides advice, examination, and supervision of the pregnant mother and thus conflicts with the given definition.

2. It is an invasion by the Federal government of the privileges, immunities and duties of states.

3. It unjustly and inequitably taxes the people of some states for the benefit of other states.

4. It interferes with the sovereign rights of states to regulate their own laws of practice.

5. There is no need for state care of pregnant mothers as records show that of the births in the state, only a small percentage are without medical care.

6. Because it calls for appropriation of extra funds and directs that funds available, both from state and federal source, are disbursed under control and approval of the Federal Bureau of Labor. That this Bureau can direct the scope and extent of medical examinations and activity in any state. That once established, it's demands will undoubtedly extend the activities of this department and increasingly invade the homes of pregnant mothers and encroach through wider application upon the privacy of our American home.

7. Because it may be confidently expected that once such a type of legislation becomes established it will with increasing rapidity extend further into the domains of medical practice.

8. Because it is beyond the function, purpose and field of State Health Departments and Health officials to enter into the practice of medicine in fields other than those of contagious disease.

9. Because our Health Commission has utilized state paid individuals as propagandists to obtain an apparent demand by the public for this type of legislation and foisted it upon the public in between legislative sessions without affording the profession an opportunity to present its objections to the governor. It did not consider or concern itself about the profession or their opinions. It did not announce its intent of securing the institution of this law. On the other hand, it quietly slipped the scheme across.

10. The writing and enactment of this law was inspired and pressed by Hearst and a certain Mr. Rosenthal. It was opposed by the Surgeon-General of the U. S. Public Health Service. Political pressure was brought to bear upon the Surgeon-

General and the administration of the law was assigned to the Bureau of Labor. Can't you imagine why? It is not a request from organized labor.

11. It's enactment will enable health officials to further invade American homes and fasten it's tentacles upon the people, compelling them to relinquish their right to freedom in the matter of consulting those who they prefer regarding their physical welfare. This is the tendency of modern health officers who have already publicly proclaimed that "The child is the property of the state."

12. Because experiences in England assure us that whereas the initial financial appropriation is reasonably small, a few years of administration increased the financial requirements several hundred-fold over the first appropriation. It may be confidently predicted that the providing of such a large fund by direct taxation is an unwarranted burden upon the public. The present legislature is requested to provide some \$759,000 for the use of the Commission of Health. If this law is enacted the administration of it will witness a request to our next legislature of not less than a million dollars for the expenses of the Health Commission. Are we receiving commensurate value today?

In formulating one's opinion in regard to this law the above points are submitted to our members for their reflection. There are other objectionable features to this law which will be presented in due course.

Correspondence

January 19, 1923.

My Dear Doctor Sawyer:

At the mid-winter session of the Council of the Michigan State Medical Society, held in Ann Arbor, January 16th and 17th, the attention of the Council was directed to the resolutions passed by our component county societies recommending and requesting that the Regents take the necessary action to secure the return of the University Hospital to the control of the Medical Faculty of the University.

It was noted that these resolutions and requests emanated from the majority of our County Societies and represent the expressed recommendations and requests from some 2,100 doctors, residents and tax payers of Michigan. It was further felt that the relationship of the profession with the University Hospital could not be co-operative, cordial and satisfactory under the present method of directorship and management. That under the present situation the University Hospital is not serving the people of Michigan, the Medical Department of the University, the students and the profession of Michigan to that degree of efficiency and service as these parties are deserving of and entitled to.

The Council therefore cordially and earnestly requests that you, as Regent, cause these resolutions to be called to the attention of the Board of Regents at their next meeting and by the introduction of the proper motion or resolution secure the granting of the prayer of the petitioners.

I will be appreciative if you will enlighten me as to the action taken in order that I may be able to advise the Council and our members.

Yours very truly,
F. C. Warnshuis, Secretary-Editor.

The Editor of the Journal of the Michigan State Medical Society:

I have your communication of January 19th. It is quite uncertain whether I shall be able to attend the next meeting of the Board of Regents;

however, I will bring the request of the Council to the attention of the Board at the earliest opportunity.

With kindest regards, I am,
Yours sincerely,
WALTER H. SAWYER.

The Editor of the Journal of the Michigan State Medical Society:

I note in the recent (January) issue of the Journal that you emphasize the address of Dr. Jas. E. Davis in which he pointed out the need for Post-Graduate work in Detroit for physicians.

It may interest our members to know that we have in the Department of Anatomy just completed a course of Post-Graduate work.

The class consisted of twenty of the prominent ear, nose and throat specialists who are practicing in Detroit. The course extended over a period of six weeks, the class met twice a week. In addition to the lectures and demonstrations, which were twice a week, each two members were provided with a head, face and neck for dissections and operations.

The course was one of the practical application of the structure and function of the head, face and neck. The lectures were illustrated by photographs, microscopic slides and dissected specimens.

The students were able to see and study all the structures discussed and their significance was further emphasized by pointing out their clinical bearings. The anatomy and physiology of the ear, eye, nose, mouth, pharynx, larynx and nervous were covered in a complete practical way.

Over a dozen human heads were used for demonstration purposes.

That the course was appreciated and considered of value was evidenced by the perfect attendance record of the members, their interest and enthusiasm. These same men have requested that they be informed, should the course be repeated, since they feel it would be well worth while for them to take such a course annually.

It is our policy in this Department to provide such courses for practitioners of surgery and medicine. We have the materials, space and equipment for the giving of courses in Anatomy bearing upon any branch of medicine or surgery.

We are now planning on beginning another course on the eye, ear, nose and throat in the near future. A course on the pathology of these parts is being given by the Department of Pathology.

With these courses, those at the Woman's Hospital and elsewhere, there exists in Detroit the elements essential to the establishment of a Post-Graduate School of Medicine here. All that remains to be done is for some one or some group of men to get together and organize the school along lines similar to those of other Post-Graduate Schools.

I write you at this length because it may be that there are readers of the Journal who may be seeking just the sort of work that we are doing in this department.

Yours fraternally,
C. F. McClintic,
Director, Department of Anatomy.

State News Notes

COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

The Society of American Bacteriologists held its annual convention in Detroit, Dec. 28-30, 1922.

The American Dermatological Association held its annual meeting in Ann Arbor, Jan. 7-9, 1923.

Dr. Herbert A. Brady and Miss Elizabeth M. Gobbe of Grand Rapids were married Jan. 10th, 1923.

Colonel Angus McLean of Detroit, chief surgeon of the 16th corps, has been awarded a distinguished service medal.

The next annual meeting of the American Gynecological Society will be held at Hot Springs, Va., May 21-23, 1923.

Dr. F. G. Novy of Ann Arbor read a paper on "Louis Pasteur" before the Wayne County Medical Society, January 8, 1923.

For the third successive year, Dr. C. G. Jennings entertained the Detroit Academy of Medicine at his home New Year's afternoon.

Dr. H. L. Begle read a paper on "Hysterical Amaurosis" before the Detroit Ophthalmological and Otological Club, January 10, 1923.

The next congress on Medical Education, Licensure, Public Health and Hospitals, will be held in the Congress Hotel, Chicago, March 5-7, 1923.

Dr. L. M. Warfield of Ann Arbor read a paper on "The Significance of Hyper-Tension" before the Detroit Academy of Medicine, January 9, 1923.

The J. William White Surgical Pavilion of the University of Pennsylvania Hospital was dedicated Dec. 14, 1922. It was erected at a cost of \$1,000,000.

Doctors W. J. Anderson, M. F. Dockery and A. Holmboe announce that they have opened new offices in Iron Mountain at 206 E. Hughitt street.

Major-General Leonard Wood has resigned the office of Provost of the University of Pennsylvania in order to remain Governor-General of the Philippines.

F. O. Logic of Iron Mountain, a chiropractic, was arrested, convicted and sentenced to serve 90 days in jail on a charge of violation of the medical practice act.

Professor Warren P. Lombard, for 31 years professor of physiology at the University of Michigan, resigned recently in order to devote his time to research.

Peter Kansa, an itinerant practitioner, was arrested recently in Detroit for practicing medicine without being registered. He pleaded guilty and was fined \$100.

At the Dec. 18, 1922 meeting of the Council of the Wayne County Medical Society, Dr. W. C. Stevens was elected to the honorary membership in that society.

Dr. Rollin H. Stevens of Detroit was elected president for 1924 of the Radiological Society of North America at its annual meeting, held in Detroit, Dec. 7, 1922.

The Michigan State Department of Health will give through the radio from Lansing, a series of short talks of a non-professional nature on health in this state, every Thursday evening.

Doctors Gordon H. Bahlman and Arthur M. Moll, of Flint, sailed for Europe on the S. S. Homeric on the 9th inst. to do post graduate work at Vienna and other continental medical centers.

At a special meeting of the Wayne County Medical Society, held Jan. 3, 1923, Dr. Maude Slyce demonstrated the results of 12 years' study on the heredity of spontaneous cancer in mice.

Dr. Robert Barany of Sweden gave an address before the Wayne County Medical Society Dec. 18, 1922, on "What the General Practitioner Should Know About Vestibular Apparatus."

Professor Robert Barany of the University of Upsala, Sweden, gave a post-graduate course of ten lectures in Detroit, Dec. 15-23, 1922. About forty Detroit physicians took this course.

Dr. Donald P. Osborne of Kalamazoo has returned from Jamaica, where he spent several weeks on vacation. While there he made a study of some of the diseases peculiar to that climate.

Henry F. Vaughan, Commissioner of Health of Detroit, was recently appointed editor of the American Journal of Public Health by the executive board of the American Public Health Association.

During the last fiscal year, the laboratories of the Michigan Department of Health sent out \$60,000 worth of antitoxin. The contract price for the same, formerly made to cities, would have been \$412,800.

Dr. and Mrs. Oscar LeSeure spent their holidays in Detroit. Dr. LeSeure retired from practice some time ago and moved to his farm in Liberty, N. Y. The doctor was for many years one of Detroit's leading physicians.

The Grosse Pointe village home of Dr. W. R. Parker of Detroit (about completed) was completely destroyed by fire Dec. 18, 1922. Dr. Parker and family expected to move into this building Dec. 21, 1922.

The Detroit Academy of Medicine met at the office of Dr. Evans, Dec. 12, 1922. Dr. Reynolds showed X-Ray plates of tumors of the brain and Dr. W. A. Evans, X-Ray plates of pelvic pneumoperitoneum cases and tumors of bone.

Dr. H. P. Poston read a paper on "Perineal Prostatectomy" and Dr. G. V. Brown read one on "The study of the Genito-Urinary System in the Fetus" before the Highland Park Physicians' Club, Dec. 2, 1922.

The annual meeting of the American Student Health Association was held at Columbia University, New York, Dec. 26, 1922, under the presidency of Dr. John Sundwall, Professor of Hygiene and Public Health in the University of Michigan.

The second annual conference of the Health Officers and Public Health Nurses was held in Lansing Dec. 4-7, 1922. Dr. Guy L. Kiefer of Detroit, presided at the Dec. 6 meeting and Henry F. Vaughan of Detroit, at the Dec. 7 meeting.

Dr. Donald Rockwell, son of Dr. A. H. Rockwell of Kalamazoo, has completed his course at the Mayo Clinic, and located in Kalamazoo, associating himself with Dr. E. P. Wilbur, and limiting his practice to eye, ear, nose and throat.

The annual meeting of the Highland Park Physicians' Club was held Dec. 2, 1922. The following officers were elected: Dr. W. B. Wallace, president; Dr. E. L. Chapman, vice-president; Dr. L. C. Piper, secretary; and Dr. H. J. Butler, treasurer.

Dr. Della P. Pierce, for many years one of Kalamazoo's most respected physicians, has accepted a position as house doctor in a private sanitarium in New York state, and will take up her duties there in the near future. A dinner was given in her honor at the Park-American Hotel on January 15.

During the first eleven months of 1922, measles caused nearly as many deaths in Detroit as diphtheria, twice as many as whooping cough, and five times as many as scarlet fever. This high mortality from measles occurs but once in three, or four years and not annually.

Dr. Victor C. Vaughan gave a public address Dec. 6, 1922, in Madison, Wisconsin, in commemoration of the 100th anniversary of the birth of Louis Pasteur and on Dec. 14, 1922 he took part in the program commemorating the centenaries of Pasteur and Mendel at St. Louis University.

Plans for the Albert Merritt Billings Memorial Hospital for the University of Chicago have been completed. It will occupy a city block. The hospital has a fund of \$1,100,000 for construction purposes. Dr. Frank Billings has donated a medical library and Mr. and Mrs. Epstein have given \$100,000 for a dispensary.

The Detroit Society of Neurology and Psychiatry met Dec. 14, 1922, at the State Psychopathic Hospital, Ann Arbor. Doctors A. M. Barrett, D. R. Clark, A. L. Jacoby and Nellie Perkins gave a symposium on "The Problems of the Abnormal Juvenile," and Dr. J. L. Garvey presented a clinical program on "Family Periodic Paralysis."

William A. Habermas, now at 107 John R street, wishes to announce that after the first day of Jan., 1923, he will be in his new home in the Charlevoix building, at the intersection of Elizabeth street and Park boulevard. Added facilities will make possible an even more personal service to a rapidly increasing clientele. A very complete line of physicians and surgeons supplies will be on display, subject to your approval.

Through the direction of Dr. Slemons, health officer, a goitre survey of the pupils of Grand Rapids public and high schools has been made. The statistics will be available in February. On January 11th a public meeting was sponsored by the Kent County Medical Society and was addressed by Dr. O. P. Kimball of Cleveland, who talked on Goitre Prevention before an audience of 1,000 people. It is proposed to introduce the prophylactic iodine treatment of goitre in the public schools of Grand Rapids.

Dr. Joseph Charest, a registered physician of Minnesota, convicted last June in Detroit for practicing medicine without a license, applied to the Supreme Court for mandamus to compel the Medical Board to indorse his Minnesota medical license. His application to the Michigan board had been refused for the reason that his college of graduation was not an accredited medical college in Michigan, and also for the reason that he had violated the Medical Act by practicing in the state prior to registration. His application for man-

damus was recently vacated and he has returned to Minnesota.

County Society News

JOINT COMMITTEE ON PUBLIC HEALTH EDUCATION

OFFICIAL MINUTES,
MEETING OF JANUARY 16, 1923

1. Pursuant to the call, the stated meeting of the Joint Committee on Public Health Education was held in the Michigan Union, Ann Arbor, on January 16, 1923, at 12:15 m., with President Burton presiding and the following members present: Dodge, DuBois, Henderson, McCracken, Frothingham, McLean, Sundwall, Huber, Biddle, Cabot, Elliott, Warnshuis. In addition there were present Doctors Seeley, Welsh, Jackson, Clancy, Randall, Hume and LeFevre.

2. Minutes of the last meeting were approved as read.

3. President Burton reported that he had arranged a conference of Presidents of Michigan Colleges to be held on January 18th and that he would at that meeting take up the question of Health Education Lectures in Michigan Colleges.

4. Dr. Henderson reported that a total of 151 lectures had been assigned and that of that number some 36 had been already delivered.

5. Copy for the second edition of the Bulletin was reviewed and approved for publication and distribution.

6. The Committee on Speakers and Topics was authorized to insert such changes or amendments to the Bulletin as might become expedient.

7. Motion was made that the Chairman appoint a subcommittee to consider the inviting of other organizations to affiliate with and have representation upon the Joint Committee. Chairman Burton appointed Dodge, Cabot and Warnshuis to act as such a Committee.

8. Meeting adjourned to meet in Detroit on April 17, 1923, at 6 p. m.

F. C. Warnshuis, Secretary.

HILLSDALE COUNTY

REPORT OF ANNUAL MEETING, JAN. 9, 1923

The annual meeting of the Hillsdale County Medical Society, held at the Mitchell Library at Hillsdale.

The President, Dr. G. R. Hanke, in the chair.

After the reading of the minutes of the previous meeting, the President gave his annual address, "Potter's Podalic Version." This was a clear and most interesting presentation of this new system of obstetrical procedure and was listened to with absorbing interest. Discussed by Dr. Sawyer and others.

The Society then listened to Dr. Louis J. Hirshman of Detroit on, "The Present Status of Regional Anesthesia in Ano-Rectal Surgery," a masterly address on an important subject fully illustrated by lantern slides and discussing incidentally, much of the technic of this class of operations and the pathology, diagnosis and treatment of these important cases. This interesting and important address was discussed by Dr. B. F. Green of Hillsdale, followed by Dr. O. G. McFarland of North Adams, and some general discussion. It was listened to with intense interest and after the discussion a vote of thanks

was tendered Dr. Hirshman for his instructive address.

Result of election of officers for the ensuing year:

Dr. C. T. Bower, Hillsdale, President.

Dr. E. C. Bechtol, Montgomery, Vice President.

Dr. D. W. Fenton, Reading, Secretary-Treasurer.

Under the head of "Miscellaneous Business" the Secretary requested Dr. W. H. Sawyer, one of the Regents of the University, who is a member of this Society, to give us "The Present Status of Proposed New Training School for Nurses" at the University of Michigan, as recommended by the "Winslow Committee."

Dr. Sawyer assured the Society that "No favorable action is contemplated on the proposition at this time by the Board of Regents or President Burton, and the discussion is considered closed."

Applications for membership of Doctors H. M. Warren of Jonesville, J. L. Quigley of Waldron, and John S. Sterling of Jerome. All were elected to membership.

Adjourned.

D. W. Fenton, Secretary-Treasurer.

MECOSTA COUNTY

On Dec. 22, 1922, Mecosta Medical Society met at the office of the secretary, D. MacIntyre, M. D., Big Rapids, Michigan. After the usual business session the following officers were elected:

President, L. E. Kelsey, M. D., Lakeview, Mich.; first vice president, Jno. L. Burkart, M. D., Big Rapids, Mich.; second vice president, A. O. Miller, M. D., Reed City, Mich.; secretary and treasurer, D. MacIntyre, M. D., Big Rapids, Mich.; legal advisor, G. H. Lynch, M. D., Big Rapids, Mich.; delegate to state society, G. H. Yeo, M. D., Big Rapids, Mich.; alternate to state society, J. B. Campbell, M. D., Big Rapids, Mich.

D. MAC INTYRE, Secretary.

SHIWassee COUNTY

The annual election of officers of Shiawassee County Medical Society was held at a meeting on Jan. 2, 1923, at the Memorial Hospital in Owosso, and the following were elected for the ensuing year: President, Dr. G. B. Wade, Laingsburg; vice president, Dr. L. F. Rice, Owosso; secretary, Dr. W. E. Ward, Owosso; delegate, Dr. G. L. G. Cramer, Owosso; Medico-legal representative, Dr. A. M. Hume, Owosso; board of directors, Dr. W. T. Parker, Owosso, Dr. L. M. Cudworth, Perry, Dr. G. T. Soule, Henderson.

A discussion of the matter of establishing a separate department for nurses' training in the University Hospital was taken up. After a thorough discussion of the subject, and presentation of arguments pro and con, the society, by unanimous vote, disapproved of the proposed establishing of such a department.

It was the opinion of the members of the society that the pressing need of the people is for a larger number of more competent bedside nurses, rather than public health and administrative nurses, such as the projected department would turn out.

The society also approved of the plan of placing the University Hospital under the control of the Medical faculty, instead of remaining under independent control as now exists.

W. E. WARD, Secretary-Treasurer.

BAY COUNTY

The annual meeting of the Bay County Medical Society was held Monday evening, Dec. 11, at the Wenonah Hotel. Dr. Zarembo, the retiring president, gave a complimentary banquet to the society and introduced as the speaker of the evening Rev.

Fr. Krakowski of Bay City. His address on "The Professions" was both inspiring and interesting.

The election of officers followed with Dr. E. C. Warren, president; Dr. Mary Williams, vice president; Dr. L. Fernald Foster, re-elected secretary-treasurer; Dr. A. W. Herrick, Medico-legal chairman.

The secretary-treasurer's report for the year showed a most successful year, both as to meetings and financial standing of the society.

L. FERNALD FOSTER, Secretary.

KALAMAZOO-ALLEGAN - VAN BUREN COUNTY

The annual meeting of the Kalamazoo Academy of Medicine was held Tuesday, Dec. 19, 1922. An all-day session was observed. Beginning in the morning at 9 a. m., a clinical program was offered under the direction of the Clinical Program Committee in the Old Borgess Hospital. The clinics included Diagnosis and X-Ray, Internal Medicine and Neurology; Eye, Ear, Nose and Throat; General Surgery, and Pediatrics.

At 2 p. m., the business meeting and election of officers was held. The following officers were elected for 1923:

President, Dr. L. H. Stewart, Kalamazoo.

Vice president, Dr. U. S. Gregg, Kalamazoo.

Second vice president, Dr. A. L. Van Horn, Otsego.

Third vice president, Dr. W. R. Young, Lawton.

Secretary, Dr. W. G. Hoebeke, Kalamazoo.

Treasurer, Dr. L. J. Crum, Kalamazoo.

Councilor, Dr. J. B. Jackson, Kalamazoo.

Librarian, Dr. C. A. Youngs, Kalamazoo.

Board of Censors, Dr. G. D. Carnes, South Haven; Dr. R. E. Balch, Kalamazoo.

Delegates to State Society, Dr. A. W. Crane, Kalamazoo; Dr. B. A. Shepard, Kalamazoo; Dr. W. E. Collins, Kalamazoo.

Alternates to State Society, Dr. J. C. Maxwell, PawPaw; Dr. W. O. Vaughn, Plainwell; Dr. R. A. Morter, Kalamazoo.

The scientific program of the afternoon consisted of an exaugural address by the retiring president, Dr. B. A. Shepard, who spoke upon "Physical Methods of Eliciting Pathological Changes in the Chest." Dr. Charles B. Reed of Chicago, delivered an interesting paper upon "The Post-Mature Child."

The annual banquet of the Academy was held at the Hotel Burdick at 6 p. m. Following the banquet a public meeting was held in the ballroom of the hotel. Dr. Reed addressed the audience upon the subject, "What Can Be Accomplished by Prenatal Care."

All the meetings of the day were well attended.

W. G. Hoebeke, Secretary.

CALHOUN COUNTY

MINUTES OF ANNUAL MEETING

In the absence of the President, the Forty-sixth Annual Meeting of the Calhoun County Medical Society was called to order by Vice President Zelinsky in the bridge room, Post Tavern, on Monday, December 4th, 1922, at 5 p. m.

Dr. Elliott moved that the minutes of the last meeting be approved as printed in the Bulletin. Carried.

The Secretary read several communications and bills. The bills having been approved by the Board of Trustees, were ordered paid.

The reports of the Secretary and Treasurer were read, as published in the Bulletin, and upon motion of Dr. Gorsline of the Board of Trustees, were accepted and approved as read.

The time having arrived, Dr. Shipp moved that we proceed with the election of officers for the ensuing year. Supported and carried.

The presiding officer appointed tellers, Doctors Gething, Putnam and Shipp.

Nominations were called for the office of President, and Dr. Shipp placed in nomination the name of Dr. Thomas Zelinsky. There being no further nominations, Dr. Marsh moved that the nominations be closed, that the rules be suspended, and that the Secretary cast the unanimous ballot of the Society for the office of President. Supported and carried unanimously. The Secretary announced 19 ballots cast, and declared Dr. Thomas Zelinsky elected.

Nominations were called for the office of Vice President. Dr. Gorsline nominated Dr. A. F. Kingsley; Dr. Marsh nominated Dr. E. M. Chauncey. There being no further nominations, the nominations were declared closed.

Dr. Kingsley, coming in at this time, asked that the nominations be re-opened, upon which he nominated Dr. Geo. A. Haynes of Homer. There being no further nominations, the nominations were closed and tellers instructed to collect the ballots. There were twenty-five ballots cast, but no choice, so the tellers were instructed to collect new ballots. Dr. Kingsley withdrew his name. The vote was, Haynes, 19; Chauncey, 5; Kingsley, 1. Upon motion the vote was declared unanimous, and Dr. Haynes elected Vice President.

Nominations were now called for the office of Secretary and Treasurer. Dr. Eggleston nominated Dr. T. L. Squier. Dr. Wilfrid Haughey moved that the nominations be closed, that the rules be suspended, and that President cast the unanimous ballot for Dr. Squier as Secretary and Treasurer. Supported and carried. Dr. Kingsley cast 26 ballots, and declared Dr. Squier duly elected Secretary and Treasurer.

Nominations were now in order for delegates to the State Medical Society, two to be elected. Dr. Shipp nominated Dr. C. S. Gorsline. Dr. Haughey nominated Dr. W. S. Shipp. Dr. Kingsley moved that the nominations be closed, that the rules be suspended and that the Secretary cast unanimous ballot for Doctors Shipp and Gorsline. The Secretary cast 26 ballots, whereupon the President declared Doctors Shipp and Gorsline as delegates to the State Society.

Nominations were now in order for alternate delegates. Dr. Gorsline nominated Dr. E. L. Parmeter. Dr. Marsh nominated Dr. W. L. Godfrey. Dr. Gorsline moved that the nominations be closed, that the rules be suspended, and that the Secretary cast the unanimous ballot of the Society for Doctors Parmeter and Godfrey. The Secretary cast 26 ballots, and the President declared Doctors Parmeter and Godfrey elected.

There being no further business to come before the Society, the new officers were installed, and the Society adjourned to the banquet room. Present at the meeting, 26; at the banquet, 62.

Following the banquet the Society once more adjourned to the bridge room, where some clever interpretative dances were given by girls from N. S. P. E.

The address of the evening was given by President Paul F. Voelker of Albion College. In a manner which held the attention of all he talked on "Wheels in the Head." After a rising vote, expressing to Dr. Voelker the appreciation of the Society, the meeting adjourned.

Wilfrid Haughey, Secretary.

OAKLAND COUNTY

A meeting of the Oakland County Medical Society was held January 3rd, at the Board of Commerce, Pontiac.

Our meetings this year are to be held bi-monthly.

A three months' advance schedule is being issued to all members, and some real interesting papers are contemplated. Alternating every two weeks, local and foreign talent will be employed.

A questionnaire issued two weeks ago revealed a great many ailments in the County Society, as well as in the Society's Components.

A most interesting, and highly instructive paper was read at this time by our guest, Dr. Phil Marsh of Ann Arbor on "The Dietetic Treatment of Diabetes." "Allen will get you if you don't watch out!"

A brisk cross examination of the defendant was immediately instituted, which only adds to the compliments Dr. Marsh has already received on his work.

F. Baker, Secretary.

The annual meeting of the Oakland County Medical Society held at Pontiac Dec. 21, 1922, was well attended. No papers were read.

The election of officers resulted in placing Dr. Daniel G. Castell in the presidential chair. The other officers elected were:

Vice president, Dr. Frank B. Gerls; secretary, Dr. Fred A. Baker; treasurer, Dr. Robert H. Baker; directors, Dr. A. Y. Ferguson, Dr. J. J. Murphy.

Delegate to state convention, Dr. Geo. Raynale. Alternate, Dr. P. D. Hilty, (both of Birmingham). Much concern was evinced by the members in a rather heated discussion of a proposed ordinance providing for the examination of all persons handling food in the city.

The ordinance in effect would give perhaps a better line on venereal disease in the several restaurants in the city, although not effective in lowering the incidence of the disease in these places. A committee was appointed by the chair to meet with the city officials making up the ordinance committee, and voice a strenuous opposition against making any such ordinance effective.

The program for the following year will be outlined in the presidential address to be delivered to the society at its next meeting two weeks hence.

FREDERICK A. BAKER, Secretary.

Book Reviews

A TEXT-BOOK OF HUMAN PHYSIOLOGY. A. P. Brubaker, Jefferson Medical College. Seventh edition, 833 pp., 367 illustrations. P. Blakiston's Son & Co., Philadelphia.

This is the seventh edition of a text that has continued to reliably present the important facts of physiology. It is based upon the author's twenty years of study and teaching.

AN INTRODUCTION TO THE PRACTICE OF PREVENTIVE MEDICINE J. G. Fitzgerald, University of Toronto. 826 pp., price \$7.50. C. V. Mosby Co., St. Louis, Mo.

There has been during recent years a very impressive change in the attitude of the community as a whole to the problems of preventive medicine. Countries, provinces, cities, and towns have, in many instances, given concrete illustrations of their abiding faith in the old adage that prevention is better than cure, by appropriating large sums of money for the purpose of public health.

The banner province of the Dominion of Canada, Ontario, now spends about 2 per cent of its total

revenue in this way. The capital city of that province, Toronto, does likewise. The motto of the New York State Department of Health is: "Public Health is purchasable; within natural limitations any community can determine its own death rate." This motto is being literally applied in these, as in many other places. It is probable that in a short time no province, state or municipality will be found wanting in this important matter.

The time has arrived, however, when in a much larger measure, physicians in general practice must become integral factors in the public health program. Community cleanliness, control of communicable diseases, arrangements for the supervision of milk and water supplies, with adequate provision for a public health nursing service is paid for by taxation. But there is need of the co-operation of the family physician in addition to ensure the smooth running of the public health machine. Full-time public health workers, administrators, physicians, sanitary engineers, public health nurses and others, provide the personnel for the execution of that part of the work for which the organized political unit pays. This additional service should supply the necessary care and supervision of the general health of individuals in the community. For this task no one is so well qualified as the physician in general practice. He can not only take a place, perhaps on a part-time basis, in the organized and official public health work, but what is more important, he can and will, become the supervisor of public health of the individual family.

To outline some of the work of the physician who is to function on the preventive as well as the curative side of medicine is the purpose of this book. It may be found useful by medical practitioners; students of medicine or public health nurses.

REGIONAL ANESTHESIA—ITS TECHNIC AND CLINICAL APPLICATION. Regional Anesthesia, by Gaston Labat, M. D. Lecturer on Regional Anesthesia at the New York University; Laureate of the Faculty of Sciences, University of Montpellier; Laureate of the Faculty of Medicine, University of Paris; Formerly Special Lecturer on Regional Anesthesia; The Mayo Foundation, University of Minnesota. With a foreword by William J. Mayo, M. D. Octavo of 496 pages with 315 original illustrations. Philadelphia and London. W. B. Saunders Company, 1922. Cloth, \$7.00 net. W. B. Saunders Company, Philadelphia and London.

Regional anesthesia has come to stay. Therefore a text that sets forth in a clear, concise and dependable manner the principles, technic and detailed instruction for the producing of local anesthesia is to be commended. This is such a text. It imparts all that is of value. Its rules are exact guides. He who observes the instructions advanced will be enabled to successfully employ regional anesthesia in his surgical procedures to the advantage of the patient and to himself.

TEXT BOOK OF PEDIATRICS. Prof. E. Freer. Translated by J. P. Sedgwick and C. A. Scherer. First English edition, 917 pages, 262 illustrations. J. B. Lippincott Co., Philadelphia.

This American text translated and edited by a staff of fifteen American collaborators makes available a splendid text on Pediatrics. It is a text, but it also serves as a reference for every doctor. There is no similar volume existant. The work is complete while at the same time there is no loss of space in useless discussion. The subject matter is dependable and the therapeutic measures advised are in line with modern accepted usages.

All in all it is a valued addition to our American literature and will supply our doctors with an authoritative reference.

OBSTETRICS FOR NURSES. By Everett Dudley Plass, M. D., Obstetrician-in-Chief, Henry Ford Hospital, Detroit; formerly Associate Professor in Obstetrics, John Hopkins Medical School. Price \$3.50. D. Appleton and Company, New York and London.

The well established modern tendency is to consider obstetrics as including the entire question of the care of the mother for as long as scientific attention is desirable, both before and after the birth of the child. This text-book for nurses is written from this viewpoint, and is therefore a complete guide to the care of the mother throughout this period and in any emergency arising in it. The book gives more than general advice to women about hygienic measures. It is a complete scientific study of the processes of pregnancy, child-birth, and the subsequent return to normal. This study provides clear understanding of physical and other changes which occur, and of the emergencies which may arise and should be guarded against. The book has the practical merit that it fully discusses normal as well as abnormal pregnancy and labor, thereby serving as a practical guide both to the attendant and the mother in all cases.

THE MEDICAL CLINICS OF NORTH AMERICA (San Francisco Number), (Issued serially one number every other month). Vol. VI., Number II., Sept., 1922. By San Francisco Internists. Octavo of 254 pages and 49 illustrations. Per clinic year (July 1922 to May, 1923). Paper \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

THE MEDICAL CLINICS OF NORTH AMERICA (The St. Louis Number), (Issued serially, one number every other month). Volume VI., Number I., July, 1922. By St. Louis Internists. Octavo of 203 pages and 61 illustrations. Per clinic year (July 1922 to May, 1923). Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

The St. Louis and San Francisco numbers contain a wide variety of subjects ranging from the old problem of Heart Therapy to the newly recognized conditions such as Acrodynia. Because of the manner in which this material is presented the Clinics should prove a most practical substitute for a visit to their sources.

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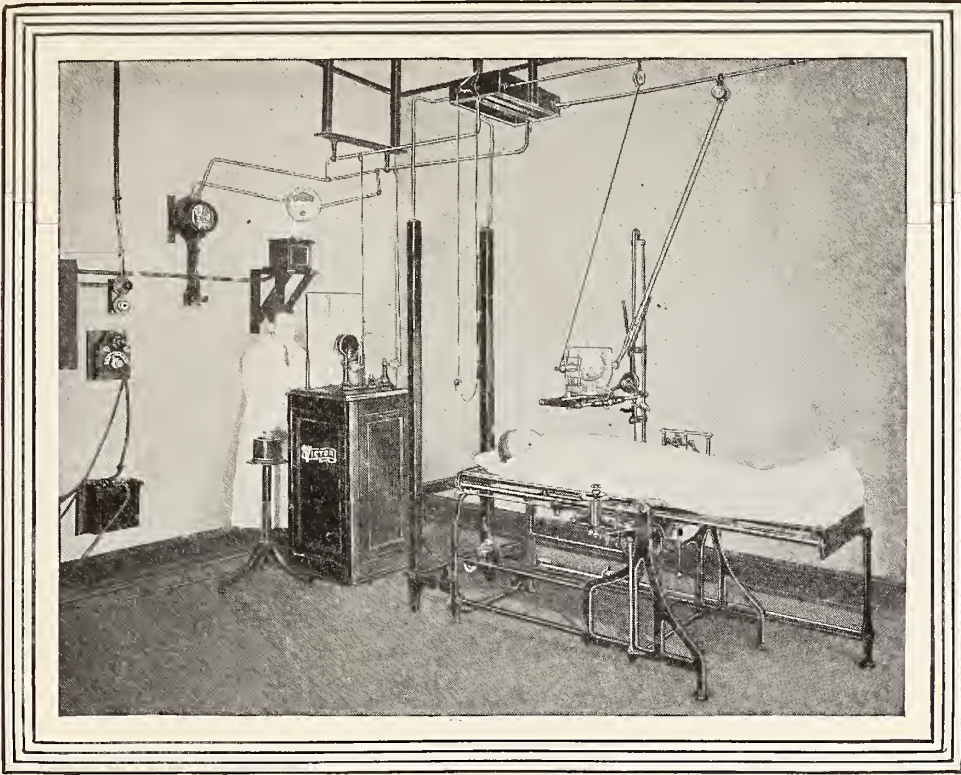
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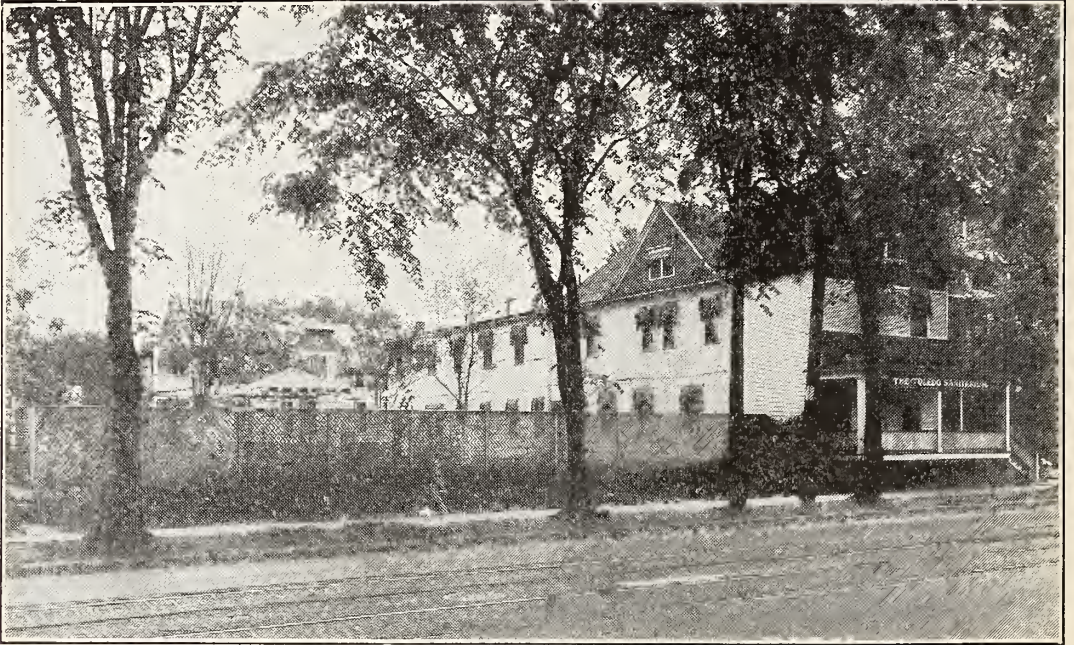
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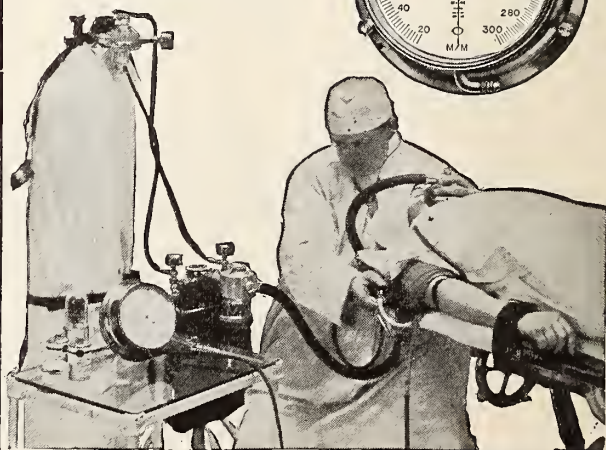
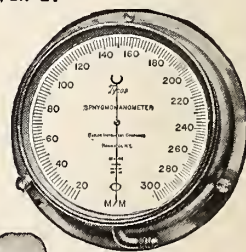
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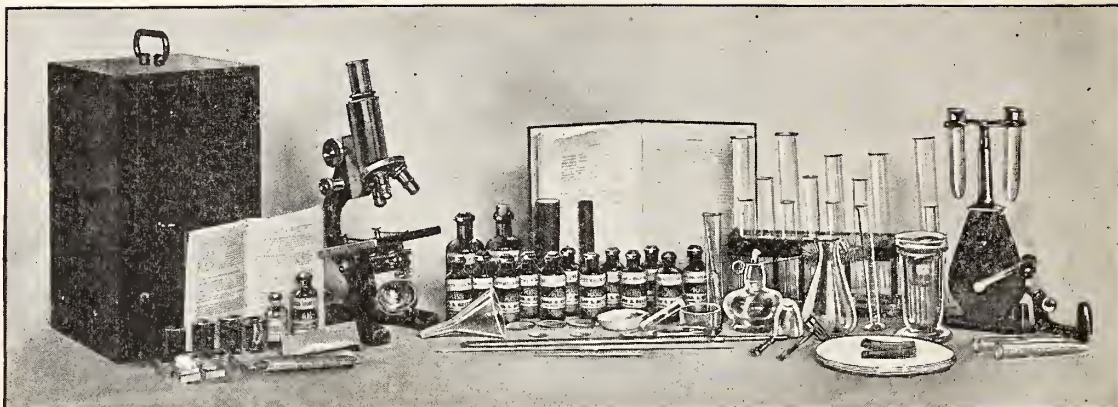
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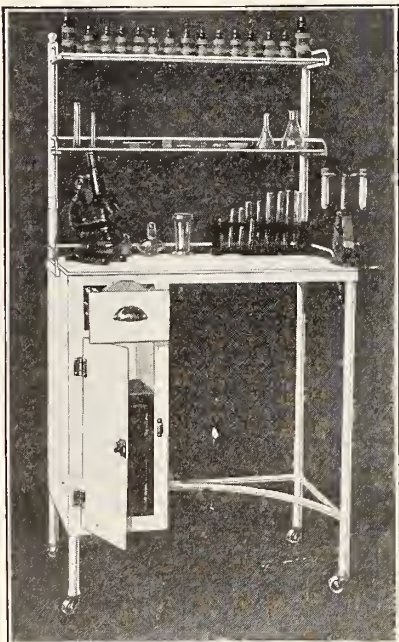
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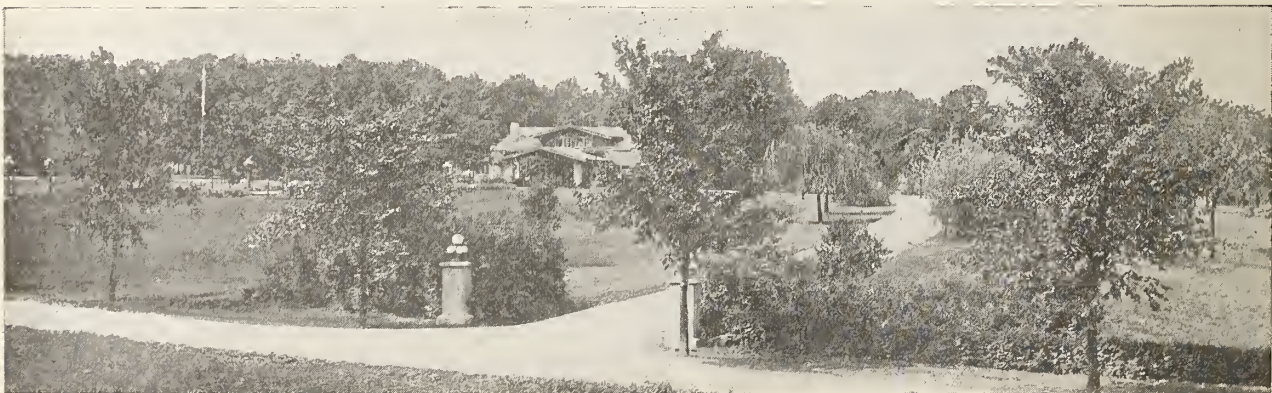
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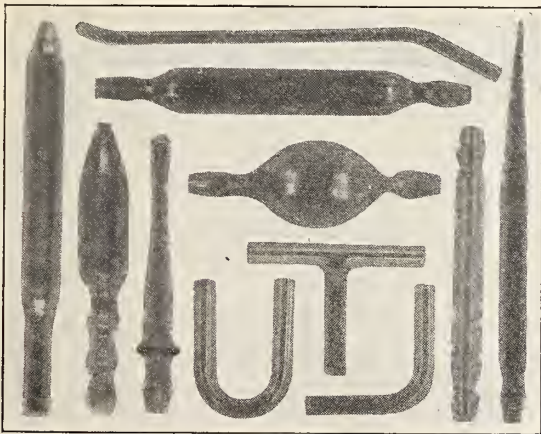
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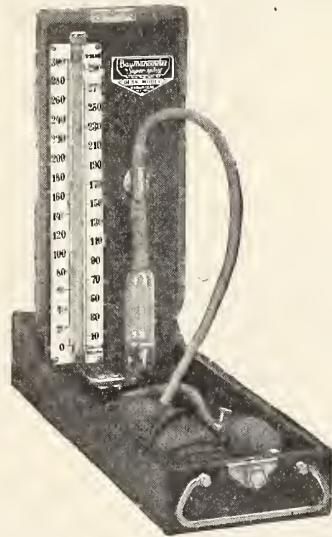
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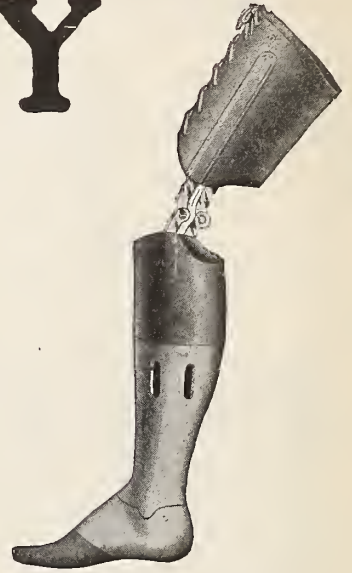
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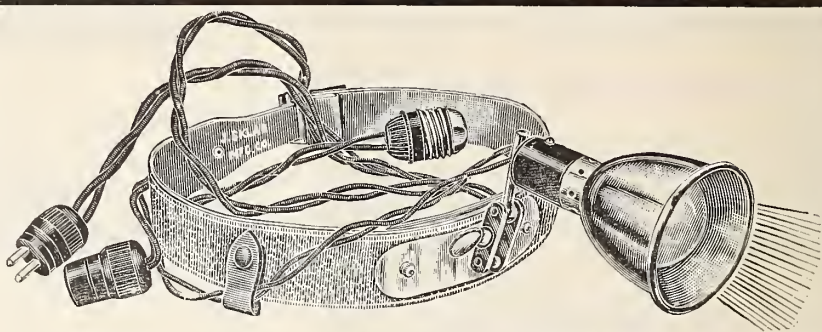
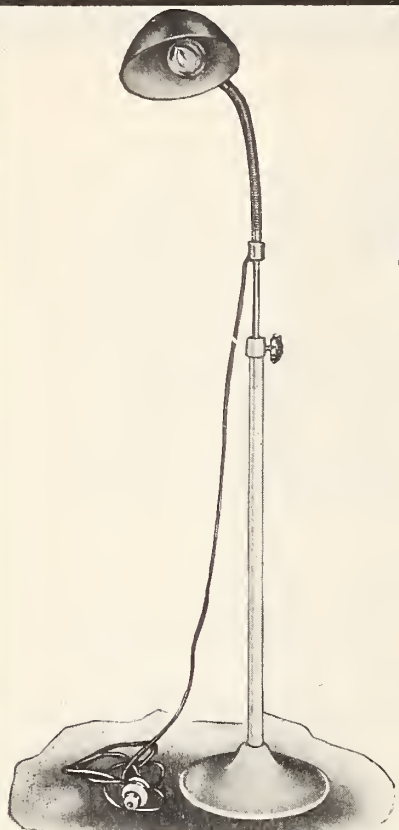
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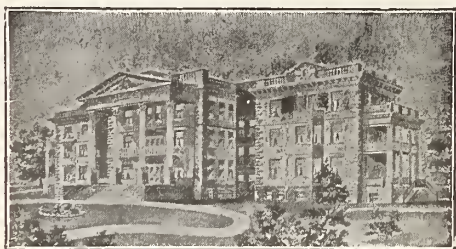
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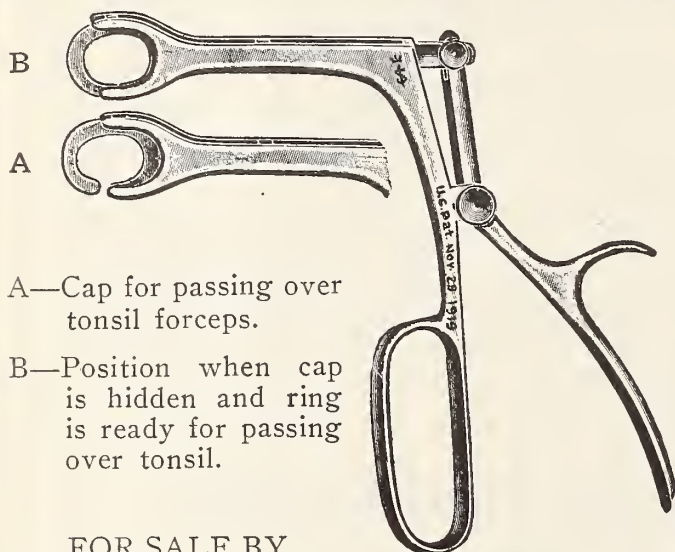
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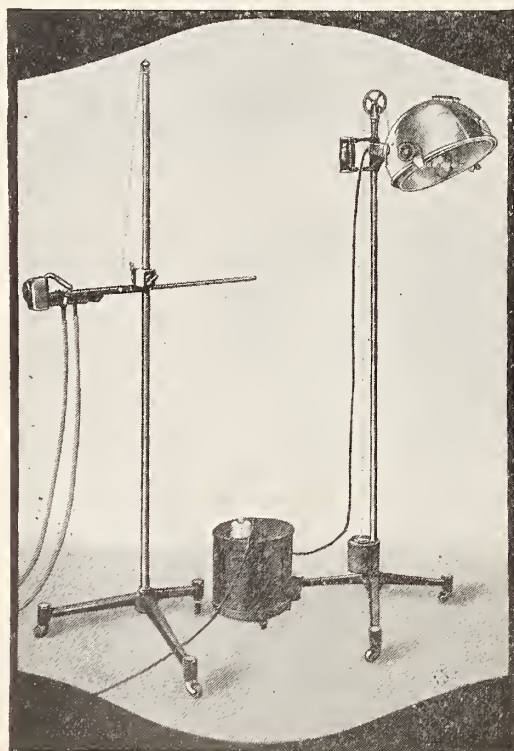
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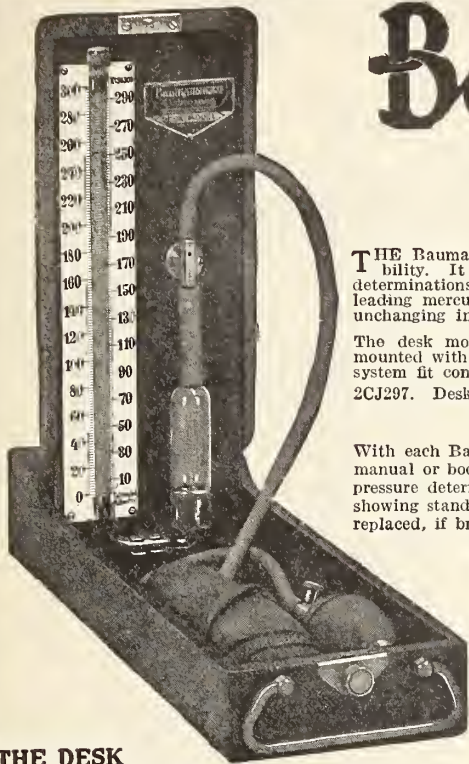
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Original Articles

ACETONEMIA—ACIDOSIS— ALKALOSIS*

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I wish to discuss acetonemia from two points of view, namely, the role played in acidosis and the role played in intoxication. In conjunction with this I also wish to consider the clinical relationship of these conditions to alkalosis, and point out a danger that may easily come from mistaking one for the other. The term acidosis is one that, at the present time, is very loosely employed, especially in clinical medicine. It is used, for the most part, to indicate that acetone bodies have been found in the urine, or that acetone has been detected on the breath. The presence of these bodies is often looked upon as a serious complication in the course of a disease. But in reality, they occur very frequently during the course of the infectious diseases of children, especially the respiratory group, without apparently producing untoward results. They also occur in starvation, most of the gastro-intestinal upsets, whether due to an unbalanced ration or to overfeeding, and in cases of vomiting and diarrhoea. From this we can see that acetonuria, which implies acetonemia, occurs with about the same regularity as fever or pain does in many of the ordinary infectious diseases. A moderate fever is rarely looked upon as dangerous, and pain is undoubtedly considered less harmful. Pain or hyperpyrexia are common symptoms but may develop to such a degree that they themselves may cause death.

From another point of view acidosis is often thought of as a condition where acids are constantly being produced. If that is the case we may say, that our bodies are in constant state of acidosis because acids are being formed every minute of our lives in the process of metabolism, and the body is constantly making every effort to maintain neutrality. In cases

where there is an unbalanced ration, several grams of acetone bodies may be excreted daily in the breath and in the urine.

We know how the slightest alteration in reaction affects some of our chemical tests, say nothing of enzyme action, surface reaction, and the more delicate protoplasmic processes. The extreme sensitiveness of the organism to any change in Hydrogen-Ion concentration becomes even more striking when we learn the narrow range which is compatible with life. From the viewpoint of reaction, ordinary tap-water is generally too alkaline and the same water distilled is too acid to be compatible with life.

Knowing that such acids as sulphuric, phosphoric, carbonic, and in addition numerous organic acids are being constantly formed as intermediate products of metabolism, and that the blood maintains its normal reaction with a marvelous regularity in spite of them, we can appreciate how efficient the mechanism for moderating the changes in Hydrogen Ion concentration must be.

This mechanism does in fact exist, and has been explained chiefly by the work of L. J. Henderson (1) (1909).

In a general sense the alkali reserve of the blood includes not only the bicarbonate, but other blood buffers such as phosphates and proteins. Besides this the blood buffers of the tissues and body fluids outside the circulation all become available when the blood is flooded with acid. (VanSlyke and Cullen 1917) (2). Furthermore, it is not to be supposed that it would be desirable that these changes should be entirely neutralized, even if it were possible. For instance, the sensitiveness of the respiratory centre to slight increase of Hydrogen Ion concentration serve to get rid of the two important products of catabolism, namely, carbon dioxide by increased ventilation and lactic acid by increased supply of oxygen. (Bayliss) (3).

(Howland and Marriott) (4) points out four lines of defense within the blood itself. Of these, (Henderson) (5) considers the blood bicarbonate as the first line of defense. It contains the only alkali that can neutralize acids without a fall in Hydrogen Ion concentration.

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In the process of neutralizing acids, one molecule of bicarbonate is necessary for every molecule of acid. The acids are carried to the kidney in some such combination, but if excreted as such the alkali would be rapidly depleted. As we already know, the kidney excretes an acid urine from alkaline blood. Therefore, it is obvious that the kidney provides a process by which alkali must be saved. In so doing the kidney removes acid phosphate and thus saves the alkali. The acid phosphate later reacts with carbonic acid and yields as one of its products sodium bicarbonate. In this way the supply of alkali for reserve is kept renewed and in that process we have a second line of defense.

The organism possesses a still further means of maintaining neutrality and that is by the production of ammonia. In normal metabolism small amounts of ammonia are constantly being formed and used in neutralizing acid products. If we have an increased production of acid products, the body produces more ammonia and thus we have another way of maintaining neutrality.

Proteins are called upon as a still further or fourth means of defense. The proteins can be either electro negative or electro positive. Thus, they may combine with either the excess acid or alkali and again help maintain compensation.

As a regulator over the above scheme is placed the respiratory center. We know the remarkable sensitiveness of this center to any slight change of Hydrogen Ion concentration. As the carbonate is used up the CO₂ piles up in the tissues and acids fail to be completely oxidized due to lack of oxygen. This condition gives an immediate response from the respiratory center which tries to further compensate by deep breathing or increased ventilation. Thus we add a very important line of defense.

We also know that water is both a weak acid and a very weak base, that is, it is an "amphoteric electrolyte." In other words, it can dissociate either as electro negative or electro positive. This property furnishes a still further means of defense.

From what has been said we can all readily see that there must be various degrees of acidosis. At once it becomes clear that the mere spilling over of acetone bodies does not necessarily mean acidosis because this condition may be entirely compensated for by the body and the patient suffers no ill effects. On the other hand the alkali may be temporarily reduced and yet we may not have a true acidosis because the condition may be entirely compensated for by increased ventilation and other processes. In fact an increased ventilation may develop on top of a slight acidosis and continue until the condition swings completely over

into an alkalosis. Therefore, there is no sharp line of demarcation that marks beginning of acidosis or alkalosis. (VanSlyke) (6) points out nine degrees of acidosis which fuse more or less into one another. So it becomes obvious that mere spilling over of acetone bodies into the urine and breath does not mean acidosis. Their presence, however, serves as a signal that metabolism is faulty and that a condition exists that can induce a considerable draught on the alkali reserve.

The acetone group is one of the acid groups that attack the alkali. It is possible to have a very severe acidosis brought about by other products (many yet unknown) and no acetone or diacetic acid be present in the urine. Holt and his co-workers (7) in their extensive studies on the sodium balance in diarrhoea have shown that there is an excess of sodium in the stools in these cases, which points to a depletion of the alkali reserve. These cases showed no presence of acetone or diacetic.

This all goes to show that we cannot diagnose acidosis from the mere presence of acetone bodies in the blood, or its avenues of exit from the blood. Furthermore, a single determination of the blood alkali is also inadequate. The latter estimation may be sufficient to indicate whether the available alkali is normal or abnormal—but it does not tell you the entire state of the acid-base balance which is necessary in making a diagnosis of acidosis.

It is not the purpose of this paper to go into the technical means of determining the exact acid-base balance. Suffice it to say, that in order to diagnose that status, more than one variable must be determined. The acid side can be expressed by the CO₂ tension. The ratio between the acid and base expresses the Hydrogen Ion concentration. Thus, we have really three variables as pointed out by VanSlyke. Any two of these would serve to locate a point and tell whether it falls in the normal zone or in some of the abnormal zones as established by VanSlyke. Such determinations, however, are too time consuming to be of general use.

Notwithstanding this, we have a considerable source of information at our hands if we only use it. First, acetone bodies in the urine or in the breath indicate a faulty metabolism and serve as a signal. Second, increase ammonia output indicates increased acid production and serves as a signal. Third, a blood CO₂ determination tells us the amount of available alkali. A depletion of the alkali should at once indicate the line of treatment, and, an increase in amount of the alkali reserve should certainly guard against further use of alkali.

As soon as the alkali reserve drops, the body tries to compensate by deep breathing, therefore, hyperpnea has been considered the chief

clinical sign, and by some, the only clinical sign. In addition, these patients are frequently in semi-stupor and generally vomit everything given them. Associated with this we have red lips, cheeks flushed and great thirst. In alkalosis the picture is essentially the same except for a superimposed tetany.

In cases of acetonemia there is often a type of breathing that closely simulates hyperpnea while the rest of the picture is essentially the same except for acetone in the breath.

A patient that shows a true hyperpnea, that is, excessively deep breathing, involving the accessory muscles of respiration, as a general rule, show a lowered alkalin reserve. Hyperpnea, however, is often confused with slow breathing which automatically becomes deeper than normal. When we consider the number of things that produce slow breathing we can readily see how it may confuse the picture. Thus we have many drugs that produce slow as well as deep respiration, namely, chloroform, morphine, ether, alcohol, chloral, veronal, tri-onal, aconite, and antimony. We are all familiar with the deep slow respiration sometimes seen in anesthesia, and we also know the bad effects from such over ventilation when continued throughout the operation.

In alcohol intoxication respiration is also slowed and often approaches an hyperpnea. Little attention is given to this sign in alcoholic drunkenness because the diagnosis is obvious without it, and rarely does a differential diagnosis have to be considered.

In addition to drugs, conditions producing cerebral compression will cause a slowed respiration, namely, brain tumor, cerebral hemorrhage, cerebral abscess, meningitis and encephalitis. Furthermore, shock or collapse from severe injury or sudden onset of any acute illness, and operations may produce the same slowed type of respiration. Again a patient in a hysterical attack may take on exaggerated slow and deep breathing. Also following an attack of epilepsy, the respiration is slow and deep.

We recall how increased Hydrogen Ion concentration stimulates the respiratory center and produces hyperpnea. Now suppose we have a case of alkalosis which is the reverse of acidosis as far as Hydrogen Ion concentration is concerned. In these cases breathing does not become shallow but becomes very slow, in fact there are intervals of apnoea, but every respiration is deep, the slower they are the deeper they become giving the picture of marked hyperpnea.

It seems to me that now we can understand how difficult it must be to diagnose anything but the most obvious case of hyperpnea. The diagnosis often resolves itself into a process

of deduction. Given a patient with normal blood chemistry, who suddenly develops an hysterical attack and begins to breath deeply; her blood will obviously very soon show an alkalosis. Again, if a normal patient is given a drug that reacts as mentioned, unless that drug splits into acid bodies, the resulting condition will be alkalosis. Furthermore, we may have various combinations of these etiological factors. Therefore, unless you have followed the case through its course it is impossible to absolutely distinguish acidosis from alkalosis except by blood CO₂ and alveolar estimations.

In treating these cases it is necessary to know the blood status, otherwise the treatment should be entirely preventive. It is obvious that the treatment in acidosis is sodium bicarbonate, but as yet we have no way of calculating the dosage. As a rule treatment at this stage of a disease process is urgent, usually a large dose of bicarbonate is given intravenously. Accordingly, we can see how easy it might be to swing the patient into an alkalosis and thus substitute one condition for the other, further disturb the acid balance, and accomplish nothing. Because we at present have no way of determining the exact dosage, our treatment really becomes preventive. As soon as we get a signal of increased acid production or lowered CO₂ alveolar air, even if compensated, we should give small doses of alkali in the form of soda by mouth. Of equal importance is water, because it is the medium through which all these reactions take place.

It is obvious that in alkalosis sodium bicarbonate is contra-indicated and in fact alkalies of any nature should be withdrawn and fluids forced.

So far we have seen that acetonemia often seems to be apparently harmless, but does possess one danger, that is, its power of lowering the alkaline reserve. This, however, only occurs in subacute cases.

Acetone has another very important action. If one injects acetone into an animal he can produce drunkenness or an actual state of anesthesia, depending upon the dose. It has been shown that acetone has almost five times the intoxicating powers of alcohol, it also has an action similar to ether. These properties place it somewhere in the pharmacological scale between alcohol and ether. None of us doubt that a child as well as an adult can develop a great tolerance to alcohol. In spite of the frequency with which it has been used, it is surprising how few times it has been recorded as the actual cause of death. Even ether mixtures are drunk by some races with impunity. There is no doubt that they develop a tolerance similar to that developed to alcohol. On the other hand, none of us doubt that large doses of either drug would induce serious symptoms

if given to a child who has not developed a tolerance.

Occasionally we see a picture of acetone intoxication which is not unlike ether drunkenness. It is most commonly seen in children between 2 and 6 and especially well nourished children. From some dietary digression or some unknown cause the child is suddenly taken ill. Vomiting is usually the first symptom. This continues until he vomits everything that is given. In a very short time he may pass into a profound stupor. The urine output is often much diminished and occasionally anuria develops. The pupils are frequently found dilated, the lips cherry red, the cheeks flushed and the bladder distended. Before the patient passes into stupor, he usually complains of severe thirst, but he is unable to retain anything. There is often an associated fever of 1 or 2 degrees. Breathing is often slow but it is deep and in this way it simulates that seen in alcohol or ether intoxication and is not unlike a true hyperpnea. The CO₂ tension and the alkaline reserve are essentially normal in these cases, at least for the first 24 to 48 hours of the disease. At any rate the disturbance in CO₂ tension or blood alkali found at this time does not seem to be of a sufficient degree to account for the symptoms.

Widmark (8) and others as well as Dr. Cowie and myself have definitely shown that acetone defuses very rapidly through the body tissues. Furthermore, it is excreted for the most part by the lungs, only about 10 per cent being excreted by the kidneys. The estimation of the excretion of acetone by the lungs is of real value as it affords a simple method of determining the extent of acetonemia. The method is simple. The patient is merely asked to exhale or blow for a few minutes through a glass tube into a large test tube containing Scott-Wilson reagent. If acetone is present a faint to a deep opalescent cloud appears in a few seconds. The density of the cloud is roughly proportional to amount of acetone exhaled.

If the process is largely one of diffusion, the concentration of acetone in the alveolar air will be in constant relationship to the concentration of the blood. To determine the exact amount in a given quantity of alveolar air, the principle is the same as above except that the moisture is removed from the air by calcium chloride and the air collected at the temperature of ice water. A liter of air is collected and bubbled through Scott-Wilson reagent. The density of the cloud is compared with the cloud produced by a known amount of acetone. This is best done by using a nephelometer. Briggs and Shaffer (9) have shown that the amount of acetone in 100 c. c. of blood can be obtained by multiplying the amount contained in 100

c. c. of alveolar air by 340, a factor which they have determined.

We have been able to show further in our animal work that glucose is distinctly antiketogenetic. That is, if we inject a rabbit with a lethal dose of acetone, we can often save it by immediately following with 20 per cent glucose intravenously. We have tried to prove whether glucose in vitro is also antiketogenetic. To some extent the results we have obtained have been confirmatory of our animal work.

Because of these facts, we treat our acetonemia cases with glucose or some other monosaccharide. Usually we give 20 to 50 c. c. of a 20 per cent glucose solution intravenously, depending upon the size of the patient. This procedure is usually followed by urination in the course of two hours, after which time the patient generally retains a small amount of fluid. Fluids are then continued by mouth in the form of five per cent glucose. In some cases the intravenous injection of glucose must be repeated.

CONCLUSIONS

1. Acidosis and alkalosis are disturbances in the acid base balance but in opposite directions. Clinically the symptoms are the same excepting that tetany frequently occurs in alkalosis.

2. The treatment of acidosis should be prophylactic. Soda should be given in small doses by mouth. In this way a serious acidosis as well as the danger of inducing an alkalosis may be prevented.

3. The term acetonemia means an abnormal amount of acetone bodies in the blood. Treatment is to give glucose which is antiketogenetic. To mild cases give it by mouth or rectum in form of five per cent solution. In cases of acetone intoxication give 20 per cent solution intravenously. Glucose, of course, is contraindicated when the carbohydrate metabolism is at fault as it is in diabetes.

4. In all cases water is essential as it is the medium through which all the exchanges take place.

5. There seems to be a condition induced by the factors at work producing acetone bodies in the organism which may be called acetone intoxication in contra-distinction to true acidoses.

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DISCUSSION

DR. COLE, (Detroit): If 20 per cent glucose solution is injected intravenously in the case of a normal dog, it will put the animal in acidosis in less than an hour's time. Dr. Parsons did not mention the rate at which the glucose is injected. If you are going to inject the hypertonic solution it must be done very slowly or it will produce acidosis. Glucose is very important and essential in combating an acidosis, but we have to be extremely careful not to give too large a dose or we will produce acidosis secondarily by the means used for correcting the condition.

DR. GUY L. BLISS, (Kalamazoo): I would ask if it would not be possible to use a solution of glucose not so strong, thus avoiding the danger Dr. Cole has alluded to, and yet not call on the kidney to excrete an excessive amount.

DR. R. S. ROWLAND, (Detroit): Clinically Dr. Parsons' paper has been very interesting to me, for it is on a subject which has worried me more or less for years. A number of years ago I had in my practice a series of deaths of children ranging from 1½ to 3 years, which from later experience I have considered to have been severe cases of acidosis. During all those early years we used alkalies in the treatment of these cases and otherwise treated them symptomatically. These children developed a typical high temperature and died in 24 to 36 hours. I remember one of those cases that had spasms which might have been of a tetanus character, so that possibly one of those cases might have been an alkalosis and not an acetonemia. I believe there is definite value in giving small doses of alkalies in these acute infectious diseases in which the symptom of acidosis so frequently appears. In the last four or five years I have had none of these severe, fatal cases, and I wonder if this has not been because I have, not exactly routinely, but always where I considered the possibility of an acidosis, given either sodium citrate or sodium acetate in small doses. I had one case of acidosis (it might not have been a pure acidosis) in which we gave repeated transfusions of glucose. We were inexperienced in the use of this agent and had no definite data on dosage, but we gave her 10 per cent glucose. The point I want to bring out is that she would be in a comatose state with a definite hypernea. We administered from 150 to 300 c.c. of glucose over a period of 20-25 minutes. After the giving of this glucose she would come out from a deep coma, clear mentally, and begin to talk to us in almost a natural manner. This little girl died, possibly from other causes.

DR. D. MURRAY COWIE, (Ann Arbor): The new point Dr. Parsons has particularly brought out in his paper is what he calls acetone intoxication. We know if a normal child is starved for a couple of days he will develop acetonemia. There will be acetone on the breath and in the urine; a lowering of the CO₂ of the blood and alveolar air. In other words, a true picture of acidosis will occur. This may develop to quite a marked degree.

Dr. Parsons has gathered together a group of cases of acetone intoxication, which, I believe, are the first to be reported. These patients developed the symptoms he has described with the presence of large amounts of acetone in the breath and in the urine, but without any lowering of the alkaline reserve. That is the point. For a long time it was loosely considered that patients with acetone in the breath and in the urine, were cases of acidosis, they really were not, unless the alkaline reserve had been severely attacked. I am particularly interested in the group of cases which Dr. Parsons

has reported. These cases are definitely benefited by the use of glucose.

Another group of cases with which you are all familiar—difficult, puzzling cases—which cause a great deal of concern is that of so-called cyclic vomiting. We are accustomed to look upon these children as highly neurotic, and we usually tell the parents that the child will have these attacks two or three times a year until 14 years of age, or that after puberty the attacks will disappear. These patients present the symptoms of acetone intoxication, or of a true acidosis. For many years I have been using glucose or some other monosaccharide in the treatment of these cases as a preventive measure. We give these children one tablespoon of granulated glucose a day. We have them take it with their meals. They can eat it dry, put it in their drink, or scatter it on their food. Although not able to say positively, I believe this is preventing the development of attacks of acidosis and cyclic vomiting, in quite a number of these children. This is the preventive treatment that Dr. Parsons speaks of.

DR. ROCKWELL KEMPTON, (Saginaw): Sometimes we are able to see what we are looking for. I know that during the past two years Dr. Parsons has done a great deal of work on this subject. Influenced by his experience, during the past year I have been watching my cases especially closely for this particular point, and have been surprised to see the number of cases that showed signs or symptoms of mild acidosis, which I am sure many of us have been passing by.

DR. PARSONS (closing): In regard to Dr. Cole's question we know from Dr. Woodyatt's work that intravenous injection of large concentrated doses of glucose in a dog often produces death and has been known to produce a temperature as high as 125 degrees F. Probably I made an error in stating the technique of treatment. What we virtually do in the very acute cases is to precede the glucose injection by an infusion of from 200 to 1000cc of saline, depending upon the degree of hydration. The patients I refer to, however, have not been sick long, generally dating from the afternoon before. As a result there is not much dehydration so one would be perfectly safe in giving such a patient 10 to 20cc of a 20 per cent glucose solution intravenously and repeat that dose in a couple of hours if the desired result is not obtained. It should be borne in mind that we try to give small amounts of water by mouth every hour or half hour and if unable to retain we give Murphy drip, an infusion being resorted to only when we feel we have no water to draw on.

Referring to Dr. Bliss' question as to how frequently glycosuria occurs, I cannot answer that from the clinical side, but when we inject glucose into animals that have been previously rendered acetonemic, for some reason we do not get a glycosuria. Remember this is not the same as injecting a 20 per cent glucose solution into a normal who is not acetonemic. Dr. Cowie and myself have done considerable work along this point but do not wish to report until further research work has been done. If we should give a weaker solution of glucose as Dr. Bliss suggests we do not get the stimulating action on the kidney, namely: diuresis, which is one of the desired points in the whole treatment.

Dr. Rollin's experience is very much like our own, that is, it is not necessary to use glucose intravenously except in severe cases. If a child gets an upset from one cause or another, associated with vomiting it is true he will retain weak solutions of alkali when he is unable to retain anything else. If the alkali is continued he will soon be able to

retain his food and thus get the benefit of carbohydrates in that way. The treatment I refer to applies to the case which goes beyond this point. The last case Dr. Rollins refers to was probably complicated by a true acidosis.

As Dr. Kempton points out, if one bears this picture in mind and is on the lookout for these cases, he will find them.

In regard to Dr. Montgomery's point, namely: stating that hypernoea is really the most important thing and the only reliable clinical sign of acidosis, I wish to say that if the clinician in this case will allow himself to be thoroughly checked up he will be surprised at the number of times he may be wrong. I recall a case in a large eastern clinic which manifested hypernoea, associated with stupor, thirst, and cherry red lips, that was diagnosed by the entire staff as acidosis. When checked up by the laboratory the case showed a definite alkalosis. To be sure this diagnosis was right not only a single alveolar air and blood CO₂ determination was done but a complete CO₂ dissociation curve was done.

DIFFICULTIES IN THE DIAGNOSIS OF RIGHT UPPER QUADRANT DISEASE WITH PARTICULAR REFERENCE TO THE GALL BLADDER

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If there is any region of the human anatomy that harbors more opportunities for pathological changes than the upper right quadrant, I am unable at present to recall it, for here are located either wholly or partially, constantly or occasionally, the liver, gall-bladder, right kidney, stomach, pylorus, duodenum, ileum, caecum, appendix, ascending colon, hepatic flexure, transverse colon and pancreas, together with their ducts, nerves and blood vessels. The tube and ovary are often times symptomatically located here also and the mesentery and omentum are not entirely immune to neoplastic changes that produce many and varied signs and symptoms. Each structure mentioned is subject to disorders that may be either primary or secondary, simple or grave, purely confined to one viscus or complicated by associated lesions in one or more neighboring structures. We cannot wonder then that the variety of signs and symptoms from this area is at times extremely complex and difficult of interpretation. The real cause for astonishment is that anything at all can be made out of this puzzling confusion. Add to all this the utterly worthless "history" that is usually elicited from the average patient and we certainly find ourselves surrounded on all sides by a pathless jungle.

Still there is beginning to break in certain directions a little light on some of the symptoms and their underlying pathological changes, and we are beginning to corrolate pathology with symptoms and signs in a manner that promises to land us somewhere, whereby we may prove of some value to our patients, for the

welfare of the patient, we must remember, is our real goal in the study of any disease entity.

I shall confine my remarks in this short paper to a few gastrointestinal conditions, with particular reference to the biliary tract, for the gastrointestinal tract is the site of many disease changes, and reflexly is the complaining witness in many disorders of other structures as well. In the Mayo clinic about one patient in six complains on entering of some abnormality of digestion, while in about one in every ten this is the cause for which he seeks relief. That the knowledge of symptoms and signs of obscure pathological upsets should be more generally and widely known even among medical men is evidenced by the fact that recently I have had referred to me as gastric ulcer cases (and I dare say my experience is not different from your own) one case of beginning tabes, one of chronic purulent cholecystitis with secondary pancreatic insufficiency, and one of splenic anemia. Cardiospasm is often mistaken for carcinoma of the stomach, as is also gall-stones, especially with secondary achlorhydria, as is often pernicious anemia, amebic enterocolitis, and once to my knowledge, a case of typical sprue. I presume there is no one here who would have any real difficulty in diagnosing a typical text-book case of gall-stones, or typical attacks of gall-stone colic. Nor again would one of you hesitate in picking out a case of typical appendicitis, or of typical duodenal or gastric ulcer. But I venture to say that practically none of us would unhesitatingly classify an obscure case, with conflicting signs and contradictory symptoms, with a worthless history, and an involvement of two or more structures in the right upper quadrant and then stand up for the diagnosis while the surgeon elucidated the condition upon the operating table. We do not see these cases "in the making" so to speak; when they come to our hands they have a long history of dyspepsia back of them and the condition is already far advanced. It is for us to unravel the tale if we can, and go backward over the path, often times ten, fifteen or twenty years or more. These problems are not simple then—they are most wonderfully complex and difficult to solve. But the surgeon may ask, "Why try to work these things out? Do an exploratory and fix up what you find wrong—if an ulcer, do a gastroenterostomy; if a gall-bladder drain it or remove it and have an end of it." That would most certainly be an easy way out and it would be the logical way—if a gastroenterostomy always cured the condition for which it was done, or if the drainage or the removal of the gall-bladder always cleared up the symptoms of which the patient complained. It is only for the reason that operations do not al-

ways cure that we owe it to ourselves and to our patients to exhaust every means at our command to ascertain just the extent and nature of the pathology in the case at hand, that we may intelligently select our cases, some for surgical and some for medical treatment. We all know that there are many cases that are primarily surgical, and I have no more patience with the internist who, knowing that a given patient's only chances lies in the use of the knife, holds him for study at the patient's risk, (as I once saw an eminent internist in an eastern city hold a case of Banti's disease in his ward at the risk of a fatal hemorrhage to the individual because he wanted to study the case a few weeks longer) than I have for the surgeon who rushes into an operation a patient with a slightly elevated basal metabolic rate for hyperthyroidism, who can be cured by a couple of weeks of rest and common sense.

I hold no brief for the internist as opposed to the surgeon—neither do I take up the cudgel for the surgeon alone. I believe in the heartiest co-operation of both wherever this can be secured. Prejudice should be put aside where the welfare of the patient is at stake. I have no use for the "operator" but I will take off my hat in deference to what dear old Dr. DeNancrede was wont to term "the medical man who operates."

Perhaps there is no one organ in the right upper quadrant that is more prone to disease of various kinds and degrees and which sometimes exhibits more baffling symptoms than does the gall-bladder. In a series of a thousand cases of such ailment there will be slightly more than two males to one female. Age will range from about 13 to over 75, the bulk of the cases coming between the ages of 30 and 60; average age from about 42 in females to 44 in males. On about 162 of the 1000 there will have been performed for relief of symptoms before reaching your office or mine, operations such as appendectomy, cholecystostomy, and pelvic operations; the last mentioned for the relief of real pathological conditions or for the relief of so-called "reflex" dyspepsias. Five patients will have been gastroenterostomized on general principles where the surgeon failed to discover a suspected gastric ulcer. Two hundred and six will give a history of typhoid fever; 180 of measles; 146 chronic tonsillitis; 145 scarlet fever; 115 of pneumonia; 93 infected teeth; and in gradually lessening numbers appear chronic rheumatism, malaria, pertussis, lagrippe, mumps, diphtheria, chicken-pox, chronic sore throat and chronic bronchitis. In some of these gall-bladder trouble seems to date directly from an acute infectious ailment.

At laparotomy 509 of these patients will have cholecystitis with stones; 434 cholecystitis without stone; 45 cholecystitis with "sandy bile";

and 19 will have carcinoma, with or without stones. Cases without stones or sand will show various grades of inflammatory change while the symptoms will in many of these cases be fully as severe and as violent as in the stone cases.

In 84 of these patients appendectomy will already have been performed and in the remaining cases pathology severe enough to warrant the removal of the appendix will be found in 682 instances. In the entire 1000 cases therefore the appendix will be abnormal in 766 cases. There will be found enlarged glands in 124 cases; chronic pancreatitis with enlargement in 63 cases; enlarged liver in 73 cases; and the presence of peptic ulcer (gastric or duodenal) in 80 cases. If anything more is needed to indicate limitations in the diagnosis and prognosis of these cases I might add that there will be found adhesions to adjacent structures in 489 instances, including cystic duct, duodenum, ampulla of Vater, stomach, omentum, colon, (hepatic flexure and transverse) liver, common duct, pancreas, hepatic duct, anterior abdominal wall, appendix and cecum.

Many of these adhesions involve more than one structure alone as well may be realized when one stops to consider the mass of adhesions oftentimes encountered in operating on this viscus. We have come to believe that cholecystitis is an ailment that is, next to appendicitis, the most frequent of all intra-abdominal disease conditions met with in practice, while in all text books it is still considered only in a vague and uncertain way.

These figures are taken from Smithies' study of 1000 cases of gall-bladder disease as met with in the Mayo clinic and at Augustana Hospital, Chicago.

The pathological gall-bladder does not spring full-blown into being. The condition when first observed is generally the result of a process that has been present and has been going on for a greater or lesser length of time—perhaps for days, as in the acute cholecystitis cases, and perhaps for years as in most of the chronic ones.

The profession was a long time in learning that the early diagnosis of gastric carcinoma is a microscopical affair, a task for the pathologist. No surgeon now has the audacity to pronounce judgment upon the malignancy or non-malignancy of gastric ulcer at the operating table unless the disease is far advanced; yet how many men even yet declare a gall-bladder as normal and healthy by merely feeling through an appendectomy opening and determining whether or not it can be emptied by merely squeezing between the fingers, without so much as bringing it to the view of the eye. Simply because there is no obstruction to the forcing of its contents, by external pressure,

into the duodenum is no reason for inferring that the said gall-bladder is normally able to respond independently to the food reflex in the duodenum. The emptying of the gall-bladder is a complex nervous reflex, controlled by and dependent upon many factors, any one of which by its failure to respond may break the chain and bring about what we might well term a "physiological block."

In the gall-bladder we have four tissue layers, any one or more of which may become diseased as the result of infection. We know that the mucosa and the bile are infected in typhoid fever. We know also that the typhoid bacillus is quite a comparatively constant resident for a longer or shorter time following an attack of typhoid, sometimes for many years. Certainly from what we know of the typhoid organism the gall-bladder can hardly harbor this germ for years as in the case of typhoid carriers without suffering some ill effects, and without producing some changes in the mucosa of that viscus. If the typhoid bacillus can live here for years, why not other organisms, and we do recover very commonly, if trouble is taken to seek for them, non-hemolytic streptococci; colon bacilli, staphylococci and fusiform bacilli from the bile of extirpated gall-bladders. Again, cultures may be positive from the gall-bladder wall and the contents of the gall-bladder be negative, or several organisms may be cultured from the enlarged lymph glands along the bile ducts. Sooner or later this condition passes from the primary stage (in those cases in which no reason for operative interference supervenes) into a chronic form which we term the "strawberry" gall-bladder. As yet the surgeon has no difficulty in expressing the contents through the ducts into the duodenum, but the gross and microscopical appearance of the mucosa, and the character, color and consistency of the bile easily show us a serious and far advanced pathology in the cases which are operated upon at this stage.

It is not necessary for me to go into the various graduations which lead through increased cholesterin content, excess of cholesterin crystals, bile sand, biliary calculi, and purulent or malignant degeneration. Suffice to say that adhesions may form at any stage, perforation or rupture may supervene and call the surgeon to the scene and then the whole gamut of changes in pathology may be worked out from the recital of the chain of symptoms experienced previously by the patient. We then wonder why we failed to see the handwriting on the wall. All of this panorama may be enacted within a very short space of time, a few weeks or months, but in the vast majority of instances the picture extends over years in length, the final stages being prevented from manifesting themselves by the death of the

patient from other causes. Stones may form in a few weeks or a few months if conditions are favorable. Instances are known and recorded where the gall-bladder has been cleared of stones and drained, and a second operation within three months disclosed the gall-bladder again filled with stones, some being firmly imbedded into fibrous spaces in the wall of the gall-bladder.

The symptomatology of gall-bladder disease is at times varied and confusing. Even in cases where calculi are found there is often times nothing in the history that points toward any anomaly in the physiology of that viscus. Still, in such cases, which have been proven to have stones, close questioning will usually elicit afterward mild digestive upsets which, in view of the findings, cannot be attributed to anything else. Such histories may disclose attacks of mild or acute indigestion, "ptomaine poisoning" and the like.

It seems to be the opinion among the laity and even among physicians that the obese person is most often likely to have gall-bladder disease and that the thin person possesses more or less of an immunity to such trouble. As a matter of fact, not more than 8 per cent of our 1,000 patients are what may be termed "fleshy." About half show weight loss which may range from a few pounds to as much as 75 pounds or more, the greatest loss, of course, being recorded in carcinoma subjects. Half the cases show neither loss nor gain. Belching, aside from pain, is perhaps the most common symptom, occurring in about 75 per cent of all cases, and is commonly associated with pyrosis or water-brash. Nausea occurs in a little more than a third of these cases. In one-third the appetite continues "good;" in another third, "fair," and in slightly less than a third, "poor."

Constipation is noted in about 60 per cent, while the bowels are regular in less than 30 per cent. A small number, about 1 in 20, have persistent diarrhoea and this is usually associated at laparotomy with some anomaly of the pancreas. Occasionally diarrhoea may alternate with constipation. In about one patient in four digestive disturbances are constant; in about half there are short intervals between frequent attacks, and in one case in five trouble is experienced only at widely separated intervals.

It is impossible before laparotomy to separate sharply cases of simple uncomplicated cholecystitis from those containing stones, for symptomatically they may present exactly the same type of picture. Jaundice is present in about 30 per cent of gall-stone cases and in slightly less than 25 per cent of those without calculi. This symptom, of course, depends upon obstruction to the flow of the bile, which

obstruction is present usually in either the common or the cystic duct and may be produced by inflammatory swelling or lodging of a calculus. In a very small per cent jaundice is persistent.

Pain is the outstanding and most characteristic symptom which is found in cases of gall-bladder pathology. It is found in about 95 cases in every 100—constant in about 20 per cent and intermittent in more than two-thirds.

This may be due to many causes, stones, sand, occlusion of ducts by cell debris, tough mucus, twists of the gall-bladder, intestinal parasites such as round worms, twisting, kinking or adhesion of ducts to surrounding structures. In stone cases the pain often ceases as suddenly as it comes on, though many cases without stones may require opiates for the relief of the severe colic distress. Heat may relieve some, perhaps the greater number, by external application or in the form of hot drinks. Many are relieved by vomiting, but even emesis may not be accompanied by any amelioration of the symptoms. Belching may help some, but this is at best only transitory and fleeting. Like gastric ulcer cases, relief may occasionally be obtained by ingestion of food, but this obtains only in about 7 per cent of cases, whereas in ulcer relief is experienced by about 75 per cent. This may be an important diagnostic point in differentiating the two conditions, especially in young persons with hyperacidity but without ulcer. Pain may be of many kinds. It is described by the patients as sharp, knife-like, sticking, doubling up, boring, or piercing in character in those subject to colic, while in others it may be a burning, dull ache or soreness. In about a third of the cases it is merely what is termed an "up-pressure," or a sensation of bloating or fullness. Its location is usually in the right upper quadrant (74 per cent,) or it may be along either or both the right and left costal margins or in the costal angle or throughout the entire epigastrium. It may or may not be transmitted—in stone cases it is more apt to be referred elsewhere than in those without stones. It may be recorded in the right back or beneath the right scapula, under the right ribs, toward the left shoulder, sternum or naval. Sometimes it is manifested as a full feeling in the throat, causing difficulty in taking a full breath. Abdominal tenderness is present about nine times in ten, but occasionally the gall-bladder is not tender in the presence of very advanced pathology.

The distended gall-bladder or an enlarged liver may be evident as an abdominal tumor, but this is comparatively rare. The urine is quite apt to show excessive bile pigment; while clay-colored stools are even more commonly

found, generally intermittently (about 18 per cent). The chill, fever and sweat which we meet with in malaria and which have so often been described as symptoms of colic are in reality a comparatively rare phenomena. Vomiting occurs in nearly half the cases, and in those with adhesions about the duodenum, or where distended gall-bladder or swollen liver or pancreas causes pressure, retention vomiting may be met. Gastric acidity as determined by test meal examinations may show nothing abnormal, but it is our experience that in the cases of long standing where the infection of the gall-bladder is of low type of virulence, decreased acidity, both free or total, or entire absence of hydrochloric acid is often met. Achylia is present in about 20 per cent of all cases and is apt to be present in malignancy. If stagnation and retention in the stomach is found we may meet with lactic acid or even "Boas-Oppler" bacilli.

The X-ray is of distinct help in diagnosing gall-bladder disease. While stones are shown by roentgenograms in only about 20 per cent of instances were they are known to be present (George and Leonard of Boston claim a record vastly higher than this), yet the thickened sclerosed gall-bladder wall filled with heavy pathologic bile can frequently be shown in outline as a distinct shadow. Many roentgenologists believe that any gall-bladder that can be shown on the plate is diseased and that the normal gall-bladder does not cast a shadow. That is a point that is not absolutely settled. In cases with adhesions, particularly about the duodenum, roentgenology of the stomach gives us important evidence, the discussion of which I have not time to go into now.

I believe that a very great step in advance in the diagnosis of gall-bladder pathology was made by Meltzer in 1917 when he rediscovered the duodenal-gall-bladder reflex which had been described in 1894 by Doyon. In the short time since Meltzer's article appeared the work has been taken up by Lyon and others with the result that some very interesting data has been collected and some very important facts elicited. For the technique of the procedure, with which you are all doubtless more or less familiar I can only refer to the writings of Lyon, Brown, Smithies, Sachs, Lesner, Friedenwald and others who describe it in greater or less detail. Its value as a diagnostic measure is what we are at this time most concerned with, and I cannot help but believe that this offers us a method of clearing up cloudy points in diagnosis in an increasingly large per cent of cases. This conclusion has been reached only after an experience covering between 1,500 and 2,000 drainages. While it is too early as yet to pass upon its real value, and although some of its ardent supporters in

the early days of its use were perhaps too enthusiastic over the procedure, yet the preponderance of evidence tends to show that it is a valuable instrument in unraveling the tangle of symptoms and signs in gall-bladder pathology. Its true worth undoubtedly lies somewhere between the almost "100 per cent perfect" accorded to it by Lyon and his co-workers, and utter worthlessness as contended by those, particularly surgeons, who have had little or no personal experience with the work. One must spend a long time to acquire a dependable technique, and, like basal metabolic work, correct interpretation of results is only acquired after long and arduous study of many cases. Personally I believe it should be used largely as a corroborative procedure. Like a Wasserman reaction which as a positive finding has a value while a negative may mean nothing at all, so I believe one should not attach too much significance to a result which flies in the face of clinical signs and symptoms supported by a carefully worked out history.

In conclusion then we may say that modern methods of approaching the study of gall-bladder disease are gradually, though slowly yielding valuable results in the earlier recognition of these cases, and with the earlier recognition there must naturally follow earlier institution of rational treatment, which again will result in less morbidity, fewer surgical operations and a greatly lessened gall-bladder mortality.

DISCUSSION

DR. CLYDE E. VREELAND, (Detroit): Dr. Karshner has covered this subject so thoroughly that he leaves practically nothing to do except to evaluate it according to my own experience.

In speaking of this subject we must keep in mind the large group of cases in which, after we satisfy ourselves we have either gall-bladder disease or perhaps some complication of peptic ulcer, when we get into the abdomen we find nothing. A number of patients, after the gall-bladder is taken out, or drainage is made, sometimes go on as formerly. So in evaluating these diseases in the right upper quadrant of the abdomen, I believe one should forget the left lower quadrant of the abdomen and base the diagnosis along the line of a thorough examination of the stomach itself, the colon and kidney function, and trace it down in a general way and come to the conclusion that all cases are not surgical. Gall-bladder disease ranks first in evaluation. I would place a large group of cases under the second class, and among these conditions of right upper quadrant distress, I would say the gastric cases take high rank. They would rank equally well with the cases of real gall-bladder disease. Then I would consider those things that cause colitis or spasm of the colon which may last for 24 hours. Green foods, like too much ground corn, or fresh new potatoes may cause a condition not unlike that of paralytic ileus found in animals, due to carbohydrate fermentation, and causing a great amount of pain in the right side. Canned foods and foods of a similar nature frequently cause colitis, and bowel cramps may be produced by the excessive drinking of water. For instance, it is not un-

usual for some people to drink six or eight bottles of pop on a hot day.

Another factor of importance in the causation of right upper quadrant distress would be systematic diseases, and so immediately I would think of right upper quadrant distress as being due to localized or generalized disease, and think of the cases of congested liver due to heart disease, or to exophthalmic goiter, with a decompensated heart or lung diseases. Then I would think of systemic diseases like pneumonia, pleurisy, diaphragmatic pleurisy, with the pain center in the right side.

Recently I saw a man who was operated on for gall-bladder disease whose symptoms were referable to the right side. Esophageal disease should be borne in mind, and the tenderness may be the same as in stomach diseases in the chronic cases. I think a good method of actually putting theory into practice, as in the cases that need surgery from the outside, is to begin with the stomach.

As a valuable measure the essayist mentioned bile drainage. Bile drainage should never be done first. A careful history should be taken first, then the Ewald meal given, and if there is hypoacidity, the fractional test meal used, and cultures made of the throat to determine what kind of bacteria are there, and in cases of hypoacidity you will find infection in the stomach. Find out what a culture of the throat shows. Frequently there is leakage from the tonsils or the sinuses and through the stomach into the duodenum, and you may be getting cultures from the duodenum transplanted.

I will mention a few things I have encountered which Dr. Karshner did not call attention to, such as small hernias in the linea alba; small pea-like veins upon the omentum or upon a small loop of bowel. Deformities in my experience are common in which one of the ducts becomes inflamed, and therefore small hernias and conditions about the foramen of Winslow are much more common.

With reference to syphilis of the stomach, I had one such case last year. She was also operated on for gall-bladder disease two years ago.

To summarize, we must be careful in chronic diseases where there is infection of the right upper quadrant not to confuse them with the results of some previous operation. In the chronic cases that come to the office, I find that most of them have had from one to fourteen abdominal operations done in order to get tone, relying on the removal of the pathology.

The functions of the stomach, bowel, esophagus and kidney—all these things should be attended to first, and we must not forget the use of the X-ray. After the regular functional tests have been made, the X-ray should be brought into play last. Every gall-bladder condition can be diagnosed by excluding the bowel and the rest of the abdominal organs.

DR. VEAZEY, (Detroit): This is an interesting subject that has been presented by the essayist. With the advent of the Meltzer-Lyon method of duodenal drainage as an aid in diagnosis and as a therapeutic measure, my own interest stimulated me to carry out some experimental work bacteriologically to settle in my own mind whether or not a great deal of reliance could be placed on the bacteriological findings in connection with biliary drainage. Fifty-five border-line cases of abdominal disease were considered in this series. These cases were dyspeptic; they had tenderness over the gall-bladder in which, by the history, physical examination, and laboratory examination and X-ray we were able to exclude symptoms of duodenal ulcer and other lesions of the gastrointestinal tract. These are the cases in which one would expect or hope, at least, to find out the particular trouble or disturbance by the Meltzer-Lyon method. We have had

a total of 55 cases, and of this number 31, or 56 per cent, showed duodenal cultures; 24, or 44 per cent, showed negative cultures. Of the positive duodenal cultures, we had 30 positives, a percentage of 97 per cent; by the negative method and stomach culture we only had 1, or 3 per cent. We found positive cultures in 88 per cent, and by the negative method and stomach cultures there was 12 per cent. The number of negative and positive cultures was 4, or 7 per cent. An interesting clinical fact in connection with these four cases is this: Those individuals who had upper and lower dentures had them removed before the passage of the tubes. The positive findings in 31 cases gives one an idea of what was found in the mouth and stomach as compared with the type of organism. In case No. 2 the staphylococcus was found in the mouth and stomach, with the staphylococcus in the duodenum. No. 4, with staphylococcus and bacillus in the duodenum. No. 7, staphylococcus and bacillus in the mouth, with only staphylococcus in the duodenum, and Nos. 8 and 9 the same. No. 13, staphylococcus in the mouth and stomach, and staphylococcus in the duodenum. Coming down to Case 45 we have a bacillus in the mouth and duodenum. In Case No. 48, we have the staphylococcus in the mouth and duodenum.

I am going to show you a slide showing a similarity in the types of organism one finds in the mouth and stomach as compared with the duodenum.

Of the positive duodenal findings, 31, or 14 per cent, showed positive duodenal cultures, with the same type of organism as shown in the mouth or stomach. Duodenal cultures showed 19 per cent; mouth and stomach cultures in 32 per cent. Of the negative duodenal findings, we had 24 cases in which we were not able to get duodenal growths, showing again this one fact that I do not think a great deal of absolute reliance can be placed on the bacteriological findings alone. However, I do not wish to be understood as saying that there is no value in the Meltzer-Lyon method, but it must be interpreted carefully.

Here is a graphic chart (referring to chart). Positive duodenal cultures, 31. Of the positive duodenal cultures or positive mouth and stomach cultures, we had 97 per cent, with only 1 per cent showing negative mouth and stomach cultures. On the other hand, the resume of what I have read explains the fact graphically. I read the positive findings, and I read the negative duodenal findings. The percentage of the same type of organism is shown in the mouth, the throat and stomach as compared with the type of organism shown in the biliary acid percentages which are somewhat the same.

This is a simple explanation of the charts. This is a case (referring to chart) on which a cholecystotomy was done seven years ago, but now has a recurrence. She has the same gastrointestinal symptoms she had previous to the time of operation. I show this chart to show the difference in the type of organism one may find in the same cases. On the 12th of December we had a staphylococcus in the mouth and stomach, with staphylococcus in the duodenum. Coming down to the 19th, we found the staphylococcus in the tonsils and in the duodenum, and so on. I show this to explain the difference in the bacteriological findings that one may obtain in the same case. The same applies to the case of Mrs. J. W. Both of these were well defined gall-bladder cases. One of them had jaundice; the other had periodic attacks of gastro-intestinal disturbance, with all symptoms pointing to a recurrence of the old condition.

This is the case of Mr. E. W., upon whom several duodenal drainages were done before operation. The patient was taken over by Dr. J. W. Vaughan of

Detroit, and my associate, Dr. Reed, and following the technic of drainage the patient came back to the office and a diagnosis was made of complete obstruction of the cystic duct, which was confirmed the next day on examination. Duodenal culture in this instance showed the staphylococcus. At operation we found a stone obstructing the cystic duct.

The next case was a woman, who, before operation showed negative duodenal growth, and at operation a laceration of the gall-bladder wall was found. A culture taken showed a streptococcic gall-bladder wall infection.

The same thing happened in the next case of gall-bladder disease, showing the staphylococcus with the Meltzer-Lyon method of drainage, and at operation the streptococcus was shown.

DR. BURTON R. CORBUS, (Grand Rapids): Some one has said that the only man who has perfect confidence in his diagnosis is the man who does not have his diagnosis checked up in the operating room or the dead-house. Those of us who have had to make diagnoses of conditions in the upper right quadrant of the abdomen and have had them checked up in the operating room have grown rather modest. Nevertheless, when I have a case which I am positive is an operative case and am a little doubtful of the diagnosis, I would rather gamble on the gall-bladder than anything else, because I feel it is a more frequent source of trouble in these obscure cases than anything we have to deal with there.

I am sure we are missing these gall-bladder cases all the time; we are not having enough of them operated on. I feel we do not stress enough the fact of focal infection from which the patient is suffering, which is more apt, perhaps, to be a gall-bladder infection than a duodenal or tonsillar infection. I wish we could find some way to prove that.

I must confess from my experience, which does not compare with that of Dr. Karshner, I have not had results in a diagnostic way from gall-bladder drainage I had hoped to find in my earlier enthusiasm with it. In a frank gall-bladder case I have had corroborative results. In those cases in which I was in doubt I have failed.

I just happened to think of an interesting case I had some years ago of a woman with frank gall-bladder trouble, who was operated on in Chicago by Dr. McArthur. She gave a history of having had typhoid 25 years before. She had not been exposed to typhoid in the weeks previous to her coming to Chicago for an operation. She was operated on. Culture of the gall-bladder disclosed the typhoid bacillus, and she promptly developed a frank case of typhoid fever which ran its natural ordinary course.

DR. KARSHNER (closing): Just a word regarding the Meltzer-Lyon method of drainage. I merely touched on that method in the diagnosis of these cases. To tell you the actual truth, I am not as enthusiastic after having done over 1,500 of these drainages as I was after the first 100. I believe with Dr. Corbus we do not know enough about these cases that are operated on. We overlook something. I do not believe enough of these cases are operated on. A paper presented by Dr. Graham of St. Louis, last month before the American Society for Clinical Research in Washington, is of interest in this connection. He claims that the gall-bladder mucosa is never inflamed, never diseased of itself alone. Together with the mucosa, other layers of the gall-bladder are always found diseased, no matter at what stage the patient is operated on. Graham's paper is presented from a surgical point of view, but at the same time there is a whole lot of value in it. He claims also that not only is the gall-

bladder infected and all the layers of the gall-bladder are infected, but there is also involvement of the common duct and of the hepatic ducts and of the liver; that many of these cases were proven by actual microscopic examination of sections of the liver tissue. He claims that small sections of the liver taken from these cases will show a coincident hepatitis; that there is also adenitis, and that there is in practically every one of these cases inflammation of the head of the pancreas. In other words, he goes back to focal infection also and claims that infection from the gall-bladder probably travels by the lymphatics from somewhere along the portal system, from perhaps an ulcerative hemorrhoid that is infected, or an infected typhoid ulcer, or a gastric ulcer; that the lymphatic relationship of all these structures is so close and intimate that it is absolutely impossible for any one of the structures to become infected without involving the rest of them. When it is once established we have our vicious circle, and the only way, according to his belief, at least, to break up the circle is to extirpate the gall-bladder. In other words, I think he emphasizes one point at least correctly, that we cannot hope, with simple drainage, to accomplish what a cholecystectomy will do. I think that accounts for the large number of cholecystectomies and cholecystostomies which come back from the surgeon to the internist, after the lapse of six months, or a year, or two years. These cases return simply because extirpation of the gall-bladder does not remove the entire focus of infection. The infection extends beyond the gall-bladder, and when infected ducts and infected liver and infected pancreas are left, we cannot hope in all these cases at least, or in a reasonable percentage of them, for anything more than amelioration of the symptoms.

PATHOLOGY, DIAGNOSIS AND TREATMENT OF ACUTE MASTOIDITIS

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The mastoid antrum and cells are anatomically and physiologically parts of the middle ear and because of this fact the mastoid is always involved to a greater or less extent in every acute otitis media. We may even think of the mastoid cavity as an accessory sinus with its every portion normally in communication with the air of the naso-pharyngeal chamber. The Eustachian tube is the drain pipe and ventilating tube of the ear and mastoid as, for instance, the frontal nasal duct functions for the frontal sinus. Closure of this tube results in blocking of the exudate and acute inflammation of the lining membrane. The pathology separates acute mastoiditis into two classes. First, those cases with inflammation of the muco-periosteum, and second, those having in addition an osteomyelitis. The first class of cases may recover with palliative treatment, while the second requires surgery.

The infecting organism is of great importance. Most of the army camps reported streptococcus hemolyticus as the most common

organism found, while Camp Shelby reported the viridans. The streptococcus muscosus capsulatus is perhaps the most dangerous. It is an eroding type of organism and especially liable to cause complications. It is also a dangerous infection because with all its virulence there may be practically no fever and only a minimum of pain. The streptococcic infections are more serious than the staphylococcus. Pneumococcic infections combined with the micrococcus catarrhalis and streptococcus pyogenus infections demand operation, according to a recent article of Mundt. Pneumococcic infection is deceptive in that new foci may be forming while the original one is healing; in other words, the middle ear may be negative to examination, but a dangerous mastoiditis be developing. The streptococcus muscosus capsulatus may also deceive in that it may lie dormant or mildly active and suddenly flare up.

The amount of discharge is usually profuse and the amount alone tells us that there is more than could possibly come from the tympanum, while with mastoiditis the surface involved has been estimated to be as large as the palm of the hand. When only the muco-periosteum is involved healing may take place spontaneously just as the tympanum itself usually heals. Bone destruction requires more time to develop.

DIAGNOSIS

The handling of our patient rests on our differentiation from an external otitis and whether or not granting it is acute mastoiditis posterior surgery will be required.

The classical signs and symptoms of acute mastoiditis are: (1), aural discharge; (2), pain; (3), tenderness; (4), fever; (5), drooping of posterior superior canal wall.

(1) Examination of the discharge gives important information, first as to the quantity and general character, second, the determination of the infecting organism, and third, as to whether the pus contains bone debris. A very profuse discharge which persists instead of lessening after free incision of the membrane, points towards the necessity of posterior drainage. For bacteriological examination the ear should be cleansed and an attempt made to obtain the discharge as it comes through the opening from the middle ear, otherwise it will be contaminated.

The finding of bone dust in the discharge is of great diagnostic value. Certain precautions in making this examination are necessary, inasmuch as ordinary dust and dirt may simulate bone debris. The slide should not be left exposed to the open air, should be stained only lightly with hematoxylin, and should not be blotted. The ear may be syringed and the washing centrifuged to get the specimen.

(2) Pain is severe if the pus is under pressure. Pain, like the temperature when it persists or reappears after drainage, indicates retention of inflammatory products under pressure. Pain is not a reliable symptom in itself because, as has been stated in streptococcus mucosus capsulatus infection, for instance, it may be very slight. The pain of osteomyelitis is usually worse at night. In all the infectious diseases suppuration may occur with little or no pain.

(3) Tenderness is usually marked with a thin cortex, and slight with a thick cortex, and we must guard against hypersensitiveness of the skin. Tenderness is usually looked for over the region of the supra meatal triangle, over the tip and over the emissary vein. In external otitis the most sensitive spot is usually the tragus.

(4) Fever, usually some, although it may be slight, or may go to 104 degrees or 105 degrees. Absence of fever is no reason for thinking the condition is not serious. In infectious diseases fever persisting after the general disease indicates aural examination.

(5) Drooping of the superior and posterior portion of the canal is usually considered pathognomonic of serious trouble.

There may or may not be swelling. Swelling may be of one of two classes. In children especially the swelling is greatest close to the auricle and high, obliterating the post-auricular fold. In the other and more dangerous type the greatest swelling is further back. The former may fluctuate, the latter more indurated.

I believe the diagnosis can usually be made by an intelligent consideration of these so-called classical symptoms. There are many other diagnostic aids to help us in the other cases.

There is usually some leucocytosis, from 11,000 to 18,000, with polymorphonuclears increased to 85 or 90 per cent. A sudden increase of the leucocytes, especially if related to an exacerbation of the clinical symptoms after an apparent improvement, is very important.

The fact that frequent incisions of the drum are necessary suggests the necessity of posterior drainage.

The transilluminator I have found very helpful in following the condition. Mastoid disease always causes a shadow, but not all shadows are caused by mastoid disease, the sinus, for instance, causing a shadow sometimes. Transillumination may be good through the mastoid when the trouble is in the antrum. The transilluminator becomes much more useful if used routinely. An ordinary flashlight, especially the fountain pen type, and an aural speculum are all the instruments necessary.

In the early stage we will probably get a shadow. By using the light each time we see the patient we can get an idea as to whether the shadow is in accordance with the other signs and symptoms. If the shadow and discharge clear up together we feel safe, but if the shadow persists in spite of free drainage it looks like more radical measures were indicated. In one case that I recall, a patient on whom there were special reasons for avoiding an operation—we were able to go through to recovery, and I would hardly have taken the risk, had it not been for the assurance I received from the transilluminator. Tenderness persisted much longer than I thought it should have after incision of the drum, but I could make out a gradual lessening of the shadow.

The X-ray is, of course, exceedingly important. In the first place it locates the lateral sinus. As with the transilluminator, the mere presence of a shadow does not mean operation. However, if breaking down of the bony septa can be demonstrated by the plates, then operation is indicated. Francis P. Emerson says if we rely on Roentgen-ray diagnosis alone we will operate on many mastoids unnecessarily.

The atypical cases are not to be forgotten, those rupturing through the zygoma and those in the digastric fossa, and also that the mastoid may be of the cellular or acellular type.

After all, our diagnosis rests on the *persistence* of the foregoing symptoms, rather than their mere presence.

TREATMENT

Three objects: (1), to save the patient's life; (2), to stop the discharge; (3), to preserve the hearing.

The treatment of acute mastoiditis hinges on whether there is bone pathology or not. If not, after free drainage the patient is put to bed, given liquid diet and a cathartic. Either extreme of heat or cold may be used. I prefer the ice bag. Drainage should be encouraged. I believe with Barany that it does no harm to irrigate the canal if done carefully, but that the canal should be thoroughly dried out afterwards.

If we believe there is bone destruction, posterior drainage becomes necessary. The antrum is opened and all cells cleaned out, including those of the zygomatic process. Osteomyelitis does not get well simply from drainage. All carious bone must be removed, cells of the tip and around the sinus should be looked for and cleaned out. The greatest cause of failure to obtain healing after a simple mastoid operation is the neglecting of the zygomatic cells; the second cause is the failure to enterate all the cells of the tip, and the third cause is failure to get the cells around the lateral sinus. The antrum should be opened freely, but curetted no more than is abso-

lutely necessary because of the exposed incus. We do not flush out the wound with any solution. The wound is closed for the greater part and a rubber drain put in the lower portion. In late acute and subacute cases where the temperature is not above 100 the blood clot method may be tried. The simple matter of bandaging is quite important. The ear should be put in a comfortable position and bandaged from before back. This takes the tension off the stitches and really makes the patient more comfortable. Holding up the bandage from cutting the other ear by a strip of adhesive further adds to the patient's comfort.

The presence of so many chronic discharging ears in the clinics, according to Frederick Krauss, is evidence of the neglect of active treatment of acute mastoiditis.

CONCLUSIONS

1. There is always some mastoiditis with every acute otitis media.
2. Our problem in each patient is to determine if there is bone involvement.
3. In addition to the information given by the usual signs and symptoms, that gained from the X-ray, the routine use of the transillumination and the examination of the aural discharge for bone debris is of great value.
4. To cure an osteomyelitis of the mastoid requires not only drainage, but removal of all carious bone.
5. For best results, cells of the zygoma, tip, and around the sinus must be cleaned out.
6. Our object is not only to save the patient's life by preventing complications, but we also have a responsibility as to the patient's hearing.

DISCUSSION

DR. A. E. OWEN, (Lansing): In the first place, I like the doctor's classification of the two types of mastoid involvement. It is very concise and clear cut. In dealing with acute types of mastoiditis I feel it is very important to study the infecting organism. I think the most dangerous type in the streptococcic infections is the streptococcus mucosa capsulatus, the hemorrhagic type being the most dangerous that I have come in contact with. When we think of the great area involved, that the mastoid is likened to the size of the palm of the hand—that to me is a very interesting point.

Of the indications for operative interference, after all the clinical symptoms have been taken into consideration, the two chief points are the dropping of the posterior canal wall, and the finding of bony debris.

The type of infection must be known before any operative interference, as that is our chief clue to the after treatment. The X-ray is a valuable aid, especially for delineation of landmarks, and I have found that it is valuable to study the transillumination afterwards. We have always used transillumination following the X-ray picture. In the mastoid cases of the muco-periosteal type where we have had a radiogram made and for some reason did not get a good picture, we have had a second exposure and we have seen these cases clear up without further operative interference taking place.

Whether that is a type that would lead to bony septa destruction, I do not know, but I doubt it. I again want to endorse the transillumination method for watching the progress of the case, and instead of closing the operative field we prefer very much to leave it open for the sake of safety. Our results have not been satisfactory when this was closed up. We prefer to leave it open and do a secondary closure after safety is established.

DR. GEORGE E. FROTHINGHAM, (Detroit): I think this subject is especially interesting on account of the great difficulty we have had in the last two years with our mastoid cases—the rapidity with which they have progressed and the slowness with which we have been able to get closure, especially closure from the antrum to the middle ear. I believe this lack of closure is due somewhat to the necrosis we find around the opening and having to remove so much diseased bone—this makes a slow healing process. Most of the cases that we have had have been streptococcus meningitis. The cases we have had serious trouble with are those where we delayed operation. I recall one case of a child where we could find a free passage, there seemed to be no swelling, no bulging of the posterior wall, as far as we could tell there was no tenderness over the mastoid; but still when we did open the ear we found the cortex (?) wall broken down, as well as the posterior wall. The bridge was practically gone.

The meningitis cases were due to delayed operation. One case proved to be diphtheritic and on that account we gave antitoxin. The child developed a localized meningitis, from which it has recovered. The safest rule is to operate early, and where we find the discharge continues to increase in amount it is a good thing, even if the X-ray does not show that we may have a meningitis that requires operation, to operate rather than to wait. There is less danger from the operation than from waiting for mastoid symptoms to develop.

DR. CHARLES H. BAKER (Bay City): I think our attitude toward mastoid operation depends on our age and how long we have been at work in this branch. I was a mastoid enthusiast in my early career—believed in the early operation; but the older I grow and the more I see mastoids, the less frequently I find it necessary to operate. We were early taught there were four cardinal signs by which we could detect mastoid involvement—pain, swelling, redness and sagging of the posterior wall of the canal. These signs we have learned to disregard, with the exception of the sagging of the wall of the canal. Temperature is not necessarily present in a very severe case; either is swelling necessary when we have other signs positively diagnostic. If, however, you find a sagging of the wall just anterior to the annulus of the upper wall of the canal, and particularly if that is accompanied by any of the other signs, you may be sure that the mastoid is involved.

I agree that you cannot have a middle ear supuration which does not also invade the antrum and the mastoid. I think it is a practical impossibility to have the one without the other. A large number of acute mastoid inflammations can be relieved if free incision is made into the drum so as to provide ample drainage, and then along with that you apply either heat or copious irrigation, frequently repeated. Dr. Ravdall, of the Children's Hospital in Philadelphia, used to claim that he treated 95 per cent of cases, and I think he was correct in his assertion that that number can be treated and not come to operation. You can afford to use that method of treatment and wait if you find that your discharge is beginning to diminish in amount and your pressure is coming down. As

long as this condition is present it is safe to go on irrigating.

So far as the X-ray is concerned, I consider it a diagnostic aid, provided other symptoms agree with it. Otherwise I consider it of no use whatever. As to transillumination, I feel much the same way, although that is perhaps a little bit more reliable in my experience than the X-ray.

I have been many times surprised when we did open a mastoid in which there was no temperature, no discharge, and in which none of the symptoms were present except the sagging of the wall, to find the entire mastoid cavity disintegrated. I have done that more than once, although it is rather the exception, the majority of the cases falling in the line of those described by the essayist in the paper. But in any number of these cases operation may be avoided by heat and irrigation.

DR. DON M. CAMPBELL, (Detroit): Dr. Frothingham referred to the difficulty in closing the mastoid. Years ago when we were content to open the mastoid in what we now consider a very inefficient way, we never had any difficulty in having the mastoid wound close. It always closed, but it frequently reopened—that is, we had secondary mastoid involvement. Now since the practice of thorough exenteration of all the mastoid cells, those at the tip, around the sinuses, up into the zygomatic route and well down into the antrum is the fashion, we have left after that operation a physical condition which is not good for the formation of healthy granulation tissue. I think that tissue must now grow from the non-vascular inner plate of the skull, consequently granulation does not proceed nearly as vigorously as it did when more of the cellular tissue was left. That is one reason why we have difficulty in closing these mastoids after operation, simply that the physical condition that we leave after a thorough exenteration of the mastoid is not as good for the formation of granulation tissue. I have come to think, too, that the non-healing of the mastoid wound is sometimes due to our carelessness in the after treatment. Not infrequently a mastoid will start to heal well, granulations will start vigorously, and then suddenly the character of the granulations changes, they become pale and flabby, and that has been brought in many cases, I believe, by a secondary infection from carelessness in our technique in dressings.

Another thing that interests me is the question of repeated incisions of the drum after an acute mastoiditis. We have come to think that if we give the drum one thorough incision and curette it well, we will not have to repeat that. If that does not turn the trick, the probability is that further incisions will not do it, and I never repeat it more than once. I do not believe the practice of repeated incisions is good surgery.

The value of the X-ray examination depends a good deal upon your X-ray expert in the first place, and in the second place upon whether you have positive findings. A positive finding, the breaking down of the trabecula between the cells as diagnosed by an expert Roentgenologist, is to me a reliable indication of pathology in the mastoid that is not likely to be cured without operation. An X-ray examination that shows the trabecula still in position means very little—simply that the process has not yet gone to the extent of breaking down this division between the cells, but that it may still proceed to do it. Therefore, to my mind, the repeated X-ray examination is very valuable. An X-ray examination may show the trabecula little involved, but perhaps two or three days later a second picture, when compared with the first, shows the progress of the disease and is an important diagnostic point.

DR. EMIL AMBERG, (Detroit): The doctor spoke of the blood-clot method of closing the mastoid wound. The wound may close well in some cases, but it may happen that the wound reopens. I think there is one type of case in which the blood clot might be advisable, and that is in the case where we do not find anything. If you have a practically aseptic operation it might do, but even then I would not use the blood clot method, because there might be an infection between the tympanic cavity and the blood clot.

So far as fever is concerned, Schwartzer has shown that in 54 per cent of mastoid cases there is no rise of temperature.

There is one point among the many which the doctor mentioned, and that is, if you have a mastoid case that has been going along for a good while and you do not know for sure whether it has to be operated. This does not apply to all, but it may be helpful in some of these—if you have a red membrane, a bulging membrane which, even after it is incised does not show any indications of clearing up, that shows that there is something behind which causes that drum membrane to behave in that manner. Just the same as in tubercular kidney we have symptoms from the bladder indicating that there is something behind.

There is another symptom mentioned by Schwartzer, and that is the throbbing. He demonstrates that in these cases we should pay attention to that. The patient may not mention it, but you can elicit it by asking if there is not sometimes a throbbing. We know that in acute mastoiditis the mucous membrane can swell to eight times its thickness. It is also known that there may be pus in the mastoid cavity, although we may not have a mastoiditis.

The doctor has brought out a very valuable point—that if a man is not able to get X-ray examination he may rely upon transillumination. Repeated X-ray examinations are, of course, of value, but the clinical symptoms must go with it.

As far as the differential diagnosis between otitis externa and mastoiditis is concerned, I think a great help is to have the X-ray picture taken from behind.

DR. JOHN E. GLEASON, (Detroit): One thing is important for the comfort of the patient afterwards, and that is a rubber tube for drainage. For the last few years we have drained all our simple mastoids that way—a rubber tube one-quarter inch in diameter or more, with gauze inserted for the first two or three days. The gauze is removed and the tube left in place. The wound is closed by skin clips, the lower half of the fascia being left open and the tube left in place until that is practically closed. You have not as much chance for infection during the after treatment. From the patient's standpoint there is nothing like it.

DR. ALEXANDER R. McKINNEY, (closing): I agree that the X-ray is the more valuable of the two means of diagnosis, but the transillumination is very convenient. One thing we have learned from transillumination is that you can have the mastoid perfectly black and yet it will get well.

In regard to closing the external wound, I think we save the patients a great deal by closing the upper part of the wound; it usually shortens the time of healing. The frequent dressings which are necessary in the open wound are very liable to lead to infection.

Acute mastoiditis is no exception to other diseases in that it is the intelligent consideration of ALL the evidence upon which we base our diagnosis and by which we are guided. If we pin too much faith to any one special sign we are liable to come to grief. Someone has said that the respon-

sibility for deciding against mastoid operation is far greater than deciding for it, and I thoroughly agree with that.

PREPARATORY TREATMENT OF PATIENTS FOR OPERATIONS UPON THE GASTRO-INTESTINAL TRACT

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In considering this subject, I am referring more particularly to major surgery for chronic conditions, and such as require resection, new openings and other procedures of a more serious import as regards previous condition, immediate mortality and final cure. I shall first consider briefly the general physical condition of patients suffering from lesions such as cancer, ulcers, strictures, kinks, or others of like nature, but which require surgery for their cure.

These patients are practically all chronically ill, more or less emaciated, undernourished, oft times anemic and in a state of nervous depression. Auto-intoxication is always present, and many times to a marked degree. All of this is the result of serious lesions of the gastro-intestinal tract, which, in the great majority of cases, cause obstruction and constant indigestion. These patients have a coated tongue, foul breath, infected teeth and mouth and indican or acetone may be present in the urine, which is often highly acid. The blood urea is increased, the alkali reserve of the blood diminished and the carbon-dioxide elimination also lowered. The obstruction usually presents results in gastric or intestinal putrefaction, with the formation of toxins and other deleterious substances, the absorption of which seriously interferes with the normal metabolic functions of the body.

Investigation has shown that feces are, by weight, nearly one-half bacteria, that even the contents of the small intestine swarm with bacteria and it is known that the gastro-intestinal tract constantly contains such material in abundance. With these facts in consideration, it is then plainly evident that in conditions of stasis or obstruction, toxins will be produced, normal digestion and assimilation prevented, the mucous membrane irritated, resistance lowered and healing power diminished. Therefore, to the thoughtful surgeon, the necessity of preliminary treatment, to correct as far as possible these abnormal conditions, would seem important before proceeding to operate, at least if he expects low mortality and a high percentage of cures.

We have had, within the past year, a case of chronic duodenal ulcer, with resulting ob-

struction, from the stomach of which patient we removed by lavage a considerable quantity of seeds, which we were informed were from fruit eaten four or five weeks before. Certainly the presence of such substances, and the condition they would be in after remaining in the stomach even two weeks, would materially jeopardize the success of even the most skillfully performed operation. With such conditions present, it would seem the part of wisdom to give due and careful consideration to the preoperative treatment of all patients suffering from lesions of the gastro-intestinal tract, sufficiently serious as to require surgical treatment for their cure.

During the past 15 years, practical experience in this work, together with observation and study of this subject, has impressed upon my mind the importance of preliminary treatment in this type of cases, and we have found that our results, especially as regards complications, have been in proportion to our care in this matter. My personal experience, during the past 10 years, while not covering an extensive number of cases of this type, still covers a sufficient number to be of some slight interest in this relation.

Our records show over 100 operations of major character on the gastro-intestinal tract, not including appendix and gall bladder cases, and we were so fortunate as to secure immediate recovery in all but two cases, one a case of congenital pyloric obstruction in an infant, and one which was brought in in an extremely bad condition with obstruction of the intestine from a band of adhesions. This series includes resections of the stomach, colon and rectum for cancer and various operations for ulcer, such as gastro-enterostomy, entero-enterostomy, resections and various procedures for other lesions as circumstances seem to require. We were so fortunate, owing to careful and painstaking technic, as to secure satisfactory functional results in all non-malignant cases, also in all malignant cases surviving for a reasonable length of time. We have several cases of cancer of the stomach and of the rectum, now living four years after the operation, and these patients are able to lead active lives with no return of the disease.

In 35 cases, previous to 1917, we followed the method of preparation with which we became familiar in the large eastern hospitals. The patients were in the hospital one or two days previous to the operation, were given castor oil or some other cathartic, with occasional gastric lavage, cleansing of the teeth, light diet and daily enema. Following this method of preparation, we had among these cases, three cases of acute dilatation of the stomach, requiring frequent lavage, five cases of acute illitis, two of infection of the abdom-

inal wall, two of thrombo phlebitis, three of bronchitis, one of pneumonia, five of mild acidosis, four of mild shock and severe gas pains in many. In fact, we had some more or less serious complications in nearly all of these cases, but ultimate recovery in all but one.

About five years ago, we adopted a somewhat more elaborate and time-consuming routine method of preparation for the chronic cases of this kind, which is as follows: All bad teeth conditions are corrected, and the mouth and teeth are cleansed daily with mild antiseptics, the throat sprayed three or four times a day with 1 to 5,000 bisulphate of quinine solution or other antiseptic, gastric lavage is used once or twice daily with sterile tube and a sterile solution of sodium bicarbonate. Sterile foods, mostly liquids, are given, with water at regular intervals, sterile enema daily and no cathartics for at least two or three days before operation. X to XXX grs. of sodium citrate or bicarbonate are given three times daily, and rest at night is secured, if necessary with veronal or like drug. Every effort is made to overcome the nervous depression by care, tact, cheerful deportment and an earnest effort to inspire a hope of final cure.

This treatment is kept up till the urine is free from acetone or indican with blood urea normal, carbon dioxide elimination normal, breath odorless and tongue clear, return fluid from the gastric lavage clear and odorless, and the general condition of the patient shows that as much improvement has been secured as seems possible in the presence of the existing lesion. This generally takes from five to ten days and is carried out in the hospital if possible.

In all cases of obstruction of the bowels in which it seemed necessary, a preliminary colostomy or illiostomy was performed; but finally, with all due care as to gentle handling of tissue and careful technic so as to avoid shock, leakage, hemorrhage, etc., the operation is performed. Following this method with some slight variations from time to time as experience dictated, or necessity required, we have been able, in over 75 operations upon the gastro-intestinal tract, to secure prompt recovery in all cases but one, a case of acute obstruction, and an almost total absence of complications or severe reactions. The few complications which arose were mild and easily controlled. There was an almost total absence of shock, bloating and vomiting, with no cases of acidosis, thrombo phlebitis, uremia, gastric dilatation or illitus, and only one case of infection of the abdominal wound. In stomach cases, gastric lavage was necessary, only once or twice, postoperatively.

The usual method of postoperative care was

followed, with uncomplicated recovery the rule.

In comparison with other abdominal operations, such as that for chronic appendicitis, gall bladder, fibroid tumors and others of like nature, where a shorter and simpler method of preparation is used, the results in the more severe gastro-intestinal surgery were marked by much milder reaction and less complication. Indeed, so well pleased have we been with our results with this method of preparation that we have applied it, with the exception of gastric lavage in some cases, to practically all our abdominal surgery of serious character, such as hysterectomies and cholecystectomies during the past few years, and with great satisfaction. We have been constantly surprised by the rapid recoveries from the anesthetic, slight reaction in temperature and pulse, absence of distension or gas pains, and the rapid restoration of gastro-intestinal function.

In prostatic cases, the importance of pre-operative treatment, such as superpublic drainage, rest and various measures to improve elimination, is now universally appreciated. Its practical application has become more general and has resulted in a marked lowering of the mortality rates in a class of patients, most of whom are in poor physical condition. So I believe that improved methods of preparation, especially with the assistance of the many valuable facts gleaned from the new work on the chemistry of the blood, will result in lower mortality rates in many other diseases requiring surgical treatment for their cure. We have observed that many patients in poor physical condition, with rather long and painstaking preparation, make even more rapid and better recoveries than patients in better physical condition, but not so well prepared.

During the past year, our only patient with pronounced acidosis and postoperative convulsions was one of gall bladder drainage and removal of gall stones. She had vomited for two weeks before and six days after operation. In spite of proctolysis of maltose and sodium bicarbonate solution and every measure we could devise, on the night of the seventh day after the operation, convulsions began. They were promptly relieved after the third convulsion by the intravenous administration of 500 c.c. Fischer's solution. The patient afterward made an uninterrupted but slow recovery.

Our conclusions, based upon a careful study of our cases during the past 10 years, both before, during, and after the operation, are, that most gastro-intestinal cases, requiring major surgical treatment are in poor physical condition as the result of their disease, and are therefore unfit to stand the necessary operation, that alone insures relief or cure. Bad teeth, coated tongue, infected throat, emacia-

tion, auto-intoxication, diminished alkali of the blood, deficient elimination and nervous depression are present to a more or less marked degree in all these cases.

Careful preparatory treatment, improving these unfavorable conditions as much as possible, will materially lessen the danger of the necessary surgery and insure more rapid and satisfactory recovery.

Finally, as the great object of surgery is the relief and cure of disease, our constant aim should be, not only to secure these desired results, but also to make our treatment as safe as possible.

DISCUSSION

DR. A. W. BLAIN, (Detroit): Dr. Hart's paper leaves little room for discussion. A man who can operate on 100 gastric cases in a small country hospital means two things, first his methods are good, and second, his surgery must be good. As we see it from the standpoint of the city man, that is a remarkable result for a man working in the country with the shortcomings of a country hospital. I do not think his good results have been due in a measure to the importance of this long drawn-out preparatory treatment. I think the important part is the prevention of this peculiar phenomenon which we call acidosis.

As regards antiseptic treatment, we have practically eliminated that. In our vaginal and rectal work we hardly ever use an antiseptic. It is important to avoid acidosis. That is done by feeding the patient. In our city hospitals, if we put our patient in bed and leave him there for several days before operation the result is, his mental state is so bad that it interferes with the good result.

I want to congratulate Dr. Hart on his mortality. First of all he is a good surgeon; second, his method of preparation does away with this acidosis. There is another factor which we hope will make our mortality lower so that anybody can operate under any conditions. For instance, in a case of gastric resection for carcinoma, where the patient is suffering already from this acidosis, the best way we think to get the patient up is by transfusion of whole blood or several transfusions, plus the other measures. The thing at the present time is to have minimum preparation and avoid acidosis. We figure that each part of the body is capable of taking care of its own organisms. We do not carry organisms from one part of the body to the operative field. We can operate on the rectum without much danger in spite of the fact that we know it is teeming with organisms. The same is true of the stomach. I do not mean to say that his methods are not good, but for many of us to try them out would not be advisable. The bad results from so much preparation would overbalance the good results.

DR. J. A. KIMZEY, (Detroit): There is one point I would like to mention, the mental attitude of the patient before coming to operation. I find in some cases it is advisable to give from 5 to 7½ grains of veronal the night preceding operation so the patient wakes up the morning after operation after a night's sleep.

DR. O. H. Hart, (closing): We do not use antiseptics except to spray the throat with a mild antiseptic which is harmless. All my work being private work among well to do people, I have no difficulty in carrying out my method. I take my patients in one part of the hospital and do not keep them in bed. They are entirely away from the

others. You do not have to worry about them. We are able to handle them. They have sufficient entertainment, going out every day. My point of view was to get the patient in the very best condition before operation.

COMPLICATIONS OF PREGNANCY*

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*Read at the September, 1922 Meeting of the G. I. C.

In a discussion of "Complications of Pregnancy" it is not my intent to enumerate the multitude of conditions and diseases complicating a normal pregnancy, for that would entail almost a resume of the diseases of the human being.

I desire to mention a few of the somewhat common pathologic conditions and discuss them briefly. These are based somewhat on my own limited experience and of necessity, I may omit some common complications of pregnancy which the members of this Society may have experienced.

The following list enumerates probably the more common complications which any member here may have encountered:

1. The acute infectious diseases.
2. Tuberculosis, gonorrhea and syphilis.
3. Acute appendicitis with a laparotomy as a sequela.
4. Cardiac lesions.
5. Glycosuria.
6. Toxemia of pregnancy in its various forms: Nephritis with its albuminuria, pernicious vomiting, hydramnios, oedema and eclampsia.

At the outset, in regard to the above list may I suggest the following: I believe that the additional load of the pregnancy actually lowers the resistance of the maternal organism, if it is attacked by infection, and that the effects of chronic infection already in the system are made more evident as a result of this reduction of the total bodily resistance. The high mortality among pregnant women in the influenza epidemics is consistent with this conception. As an example of chronic infection and pregnancy, I might mention having a case of gonorrhoeal salpingitis which flared up after delivery with a resulting generalized peritonitis, pericarditis and death during the puerperium.

(1) The acute infectious diseases are usually less aggravated by pregnancy than the chronic organic diseases, but may often lead to premature delivery, as in pneumonia, typhoid fever, influenza, etc. Induction of premature labor in these cases, is usually contra-indicated as it materially increases the risk of the mother.

Scarlet fever in pregnancy is a rare occur-

rence, and when present, usually causes abortion or premature labor. Measles is the same and more often occurs in the puerperium when it gives a serious prognosis.

Smallpox in pregnancy is more common and has a high mortality for the mother, compared to the non-pregnant condition.

Typhoid fever is a distressing complication, and has a high foetal mortality; about one-half of the cases abort or miscarry.

In pneumonia we usually observe premature labor. Both foetal and maternal mortality being greatly augmented. Premature labor in this type is especially serious, with the increased cardiac strain on an already over-worked heart.

Influenza, both with and without a post-pneumonia has an exceedingly severe influence on both child and mother. During the last epidemic, I had two pregnant influenza-pneumonia patients in the eighth month. In one case, mother and child both died within twelve hours, after a spontaneous premature delivery, and in the second, there was a premature still birth, but the mother lived. The recovery in this case I attributed to a severe rectal hemorrhage which aided the already overtaxed heart and eased up somewhat on the pulmonary congestion, after the old-fashioned principle of blood letting.

(2) As stated previously, the chronic diseases are usually more generally influenced by pregnancy, though there is less tendency to cause premature labor. This is noted in the very common combination of pregnancy and tuberculosis, where unless the disease is advanced, it will have no influence toward causing abortion, miscarriage or premature labor. We may note a mild exacerbation of the disease during pregnancy, but the rapid progress of the disease, with its fever, sweats, loss of weight and cough, is observed as the result of strain incident to labor and of subsequent nursing. After the fifth month of pregnancy it is best to treat these cases expectantly and then the induction of labor about two weeks before term is often advisable. Even in those cases in which the symptoms are first observed during pregnancy, infection has generally occurred prior to conception and an exacerbation during pregnancy has directed attention to the pulmonary condition. I believe one should advise every tuberculous woman against becoming pregnant unless her disease is very early or has been quiescent for several years, because, as just stated, the disease will invariably flare up and become active. If she does become pregnant, and shows signs of an active pulmonary process, the physician should by all means advise emptying the uterus. In ten cases of tuberculosis complicating pregnancy of my own, six became active after full term

delivery; one mother died in the third month, and baby in the first month. One case has been inactive for 11 years and has had three normal pregnancies during that time with no recrudescence of the disease. I have another case of chronic passive tuberculosis which was delivered six months ago, and to date there is no evidence of any active process. One patient I interrupted pregnancy at four and one-half months because of the activity of the disease and the decline of the patient. I have also under observation at the present time a patient who miscarried her first and only pregnancy during the second month, one and one-half years ago. Her pulmonary symptoms dated from the miscarriage.

Directly the reverse of tuberculosis in its effect on pregnancy, syphilis is one of the most frequent causes of abortion or premature labor, and should be suspected in all cases where a satisfactory cause cannot explain the accident. Especially if the disease existed prior to pregnancy, this end result may be expected. When the disease is acquired at the beginning of pregnancy or afterward, the patient is more liable to go to full term. The use of salvarsan, mercury, and iodides has markedly beneficial effect in aiding to carry a pregnancy to term. I have had two patients with a Wassermann * * * who delivered at full term after being on antiluetic treatment during the pregnancy; one of these had three miscarriages previously with no medication. Have also attended a congenitally syphilitic patient who gave birth to a still-born monster at seven months; this was her fourth premature labor. This latter patient had been given extensive treatment for years, but evidently with no beneficial effects.

Gonorrhoea, either acute or chronic, has a less severe effect on pregnancy. It may occasionally cause abortion or premature labor. The gonorrhoeal effect of serious nature is usually postpartum; the ophthalmia of the baby, the pus tube infection and occasionally a generalized systemic infection.

Of five cases of gonorrhoea and pregnancy, one miscarried at four and one-half months, the other four going to full term; one of the latter developed septicemia during the puerperium and died.

(3) Acute appendicitis occurs with about the same frequency in pregnant and non-pregnant women. Pregnancy does not predispose to an acute exacerbation. Appendectomy especially in the early months, does not necessarily mean premature labor. My experience in this complication has been limited to five cases, all of which I did an appendectomy. Two went to normal full term, being operated during the second and third months respectively; the third at six months, pregnancy miscarried the

second day after operation, and the fourth, operated at four months, went into labor prematurely at the eighth month and delivered twins, both of which died. My fifth case was operated during the second month, and she is now in her fourth month of pregnancy, with no tendency as yet to miscarry.

(4) Cardiac lesions offer a wide field of observation in pregnancy and are probably one of, if not the most common, complication. Fortunately, the majority of these are benign and might be said to exist accidentally. Mitral insufficiency is the most frequently observed, and usually in the presence of a well compensated heart. It is rare that cardiac lesions are severe enough to endanger a pregnancy and therefore do not indicate an interruption of the pregnancy unless there is broken compensation. This shows itself as a pathologic condition in the oedema of extremities, the secondary nephritis, oedema of the lungs with moist rales, the dyspnoea, the tachycardia and the dilated heart of myocardial failure. Generally speaking, in heart lesions the prognosis is always good as long as compensation is maintained. Very serious lesions very often cause premature labor, either from uterine hemorrhage or death of foetus from insufficient oxidation. Myocarditis is a serious complication and a frequent cause of death during labor or the first few hours of the puerperium.

Of a number of cardiac cases observed during pregnancy, I have had three very serious ones. The first, a primipera with pronounced mitral insufficiency. She miscarried a dead foetus at seven and one-half months. During her second pregnancy she was on the infusum digitalis most of the time at intervals, and went to a normal full term delivery. The second, had a markedly decompensated heart and myocarditis with paroxysms of precordial pain with an erratic fast pulse. On appropriate therapy this case also went to term normally, though she had a marked tachycardia for one month afterwards. This was the patient's second pregnancy; she lost the first one at seven and one-half months, having the same clinical picture, but had no treatment for a diseased heart.

(5) Many cases of so-called diabetes in pregnancy are merely temporary glycosurias which are not likely to be attended by any serious symptoms; the glycosuria clearing up immediately after the delivery of full term healthy babies. True diabetes is rare in pregnancy, but glycosuria about one to five in each one hundred pregnancies. The condition can hardly be regarded as real pathology, but simply the excess of sugar intake over what the body can evidently assimilate and use. In three cases of glycosuria which we have seen,

the condition cleared up after delivery, but could not be completely and permanently eradicated until that time.

(6) The toxemia of pregnancy with its variety of symptoms and degrees of severity offer the really big problem to the management of a case of pregnancy.

The theories advanced as to the etiology are numerous. A recent Swiss writer advances the idea, not new however, of auto-intoxication as the result of toxin absorption derived from the placenta or endocrine system, especially pituitary, adrenals or thyroid; the resulting clinical picture of which is vasoconstriction in the blood stream, then oedema, functional upset in the kidneys and resulting high blood pressure. If the retinal vessels are affected by the constriction, there is disturbance in vision; if the cerebral vessels are most affected, we have eclampsia, oedema and kidney pathology, eclampsia being a question of different degree of the blood vessel spasm.

Acute nephritis with pregnancy will not, as a rule, subside on medical management alone, and pregnancy must usually be interrupted, or premature labor occurs with a dead foetus or death soon after delivery. A nephritis with a progressive toxemia and constantly increasing albumen and a decreasing amount of urea and a falling specific gravity should be an indication to interrupt pregnancy in hope of preventing eclampsia.

Pyelitis complicating pregnancy is bad, inasmuch as there is often a damming back process of the purulent infection in the kidney, due to pressure on the ureters. Such a condition is serious and necessitates premature delivery.

In hydramnios, when the abdomen is so distended as to seriously threaten the life of the patient, pregnancy should be terminated. This fact was driven home very forcibly to me. My wife developed severe hydramnios with pressure on diaphragm and embarrassment of respiration to such an extent she was unable to lie down in bed, but had her head elevated. Then occurred secondarily, the nephritis, albumen, oedema, a decrease of elimination, dropping of specific gravity and the pregnancy was terminated, fortunately with good results. These various toxemias as indicated are all benefited by terminations of pregnancy either mechanically or by normal delivery. I have interrupted four such cases, prematurely with recovery. Except eclampsias, the most profound toxemia of pregnancy I ever saw was a multipera, age 36 years, second pregnancy, seen at term two years ago in consultation with Dr. McClinton at Shepherd. She had a severe nephritis, with heavy albumen, an albumenuric retinitis with total blindness and a marked hypertension. During the puerperium her blood

pressure dropped to normal, vision became normal and the urine cleared up.

In conclusion, I should like to mention what the text-books call a rare condition, namely a case of acute cholecystitis with jaundice complicating a pregnancy at eight and one-half months. Patient went to term and was delivered normally, but during her puerperium, she flowed rather constantly for three weeks. This I ascribed to the hemolytic action of bile in the jaundiced state of the patient.

GENERAL MANAGEMENT OF PREGNANCY AND LABOR*

M. C. HUBBARD, M. D.

In writing this paper I am departing from the usual line of medical papers in this respect that I am making it a discussion of practical management rather than of scientific truths.

We are all taught the same things in our books and I believe we are all reasonably well
VESTABURG, MICH.

informed as to the mechanism of labor, and the basic principles, and in my whole experience I have never had the privilege of observing a doctor conduct a case of normal labor. If your experience is similar I would expect we would differ in our methods. I think here is a good field for an exchange of ideas for we have had, to some extent at least, to work out a method of procedure somewhat our own, and I think some of these things, our mannerisms, our personality, and our judgments of people, together with the way in which we apply our knowledge, determine to a large extent our success in this field.

PREGNANCY

I believe that the doctor should have the chance to advise during pregnancy, but in a large per cent of cases the doctor does not see the woman until called for the labor, unless there appears some unusual discomfort or sickness.

When consulted as to care during pregnancy, I note present appearance, general health, previous health or complications, bowel action and kidney output. I request a specimen of urine about once a month which is usually produced. I give instructions to come to me with any question that she wishes to know about regarding her condition and to certainly report if she feels that anything is wrong. She is to report a severe or protracted headache, blind spells or a lessening of urinary output.

Complications and accidents of pregnancy to be thought of and avoided if possible, are abortions and premature deliveries, kidney deficiencies, hyperemesis gravidarum and eclampsia, which, when occurring, should receive their appropriate treatment.

In the way of medical treatment indicated during pregnancy. For lessened urinary output I depend largely on Bashams Mixture in doses of one-half ounce in full glass of water four times a day. To keep bowels active I direct cascara, or mineral oil, phenolphthalein, or milk of magnesia if the stomach is upset. Magnesium sulphate or elaterium are useful if kidneys are being overworked or for any reason we want to unload a quantity of liquid.

Threatened abortion I have treated with liquor sedans or some other viburnum mixture and rest in bed and have seen some cases which seemed inevitable, go on to term. I never could decide in my own mind just how much or how little the internal medication did.

In the severer forms of vomiting of pregnancy I have tried nearly all the things advised, it seemed to me without result, except hypodermic corpora lutea. I do not know that it will help every case of vomiting of pregnancy, but in one particular case it certainly saved the day.

Pelvic measurement theoretically is right, but I have not carried it out.

LABOR

I believe that most women coming to labor have considerable fear of the ordeal and a dread of the pain that they must bear. Of course, I believe it our duty, if possible, to carry labor safely through even at the expense of any amount of pain to the woman and even with damage to our reputation for gentleness and care if necessary, but I believe if we study to give relief to pain and to allay apprehension, we can do so largely and still be well within the limit of safety.

The following articles and medicines I consider necessary to carry to every confinement: Obstetric forceps, artery forceps, shears, large full curved needles and needle holders, catheters, Kelly pad or absorbent sheet of some kind or rubber sheet, sterile gauze and absorbent cotton, powder for cord, germicidal soap and antiseptic tablets, chloroform and mask, sutures and umbilical tape, stethoscope, hypodermic syringe, alcohol, tinct. iodine, fl. ext. ergot, pituitrin, H. T., H. M. C. or H. T. morphine and scopolamine, H. T. strychnine, spts. ammonia aromatic, ampoules camphor in oil and 1 per cent silver nitrate solution and dropper. I carry more than this, but seldom use some of the things I carry.

To prepare my hands I give them a thorough washing with warm water and germicidal soap in a clean basin if I can get it, and sometimes I have to scrub out the basin with the same to feel at all safe. Then, with a change of water in which is dissolved either bichloride or Mercury Iodide tablets, I soak my hands, and keep such a solution at hand

*Read at the September, 1922 Meeting of the G. I. C.

during labor to wash my hands before any and all examinations and manipulation.

To prepare the field of operation I cleanse the vulva and surrounding parts with the same solution as for hands.

To protect the bed from the discharge and the patient from the bedding, I usually use a Kelly pad and clean cloths, of which nearly every home has a supply, using the cloths to absorb and mop up any discharges from the pad. They are then discarded into slop pail or chamber. In this way I can have the field of work free of discharges.

For the relief of pain and apprehension my methods differ greatly in different cases, according to the temperament of the patient, the progress of the case and the amount of apparent pain.

In the early stages where the patient is nervous and the pain is wearing with not much progress, I give a hypodermic of H. M. C. or similar mixture. Seldom do I insist against the wishes of the patient, but endeavor to inform her if she is prejudiced. It is harder to deal with the prejudices of the family and friends. Some patients insist on relief when, from their actions and effort and progress, I know they are more afraid than suffering; then I hold out the hypodermic or chloroform as a prize to be gained when they reach a certain stage, assuring them they shall have it in due time. The time to begin chloroform is a case for decision in each individual case. I usually begin some time before the end of the first stage of labor, depending on my judgment of just how much the woman is suffering and how well she is standing the suffering. During the second stage she usually needs chloroform with the pain, increasing the intensity of the anesthetic toward the end. So as the head is delivered she is just enough under to be insensible and not struggle.

H. M. C. should never be used, in my opinion, when the child is likely to be born within an hour or two. When used, I think it will have an effect in quieting the perception and appreciation of pain for several hours, but may make the patient very talkative, which may take the form of delirium, and the woman may tell secrets and have imaginations under its influence, all of which passes off almost at once at the completion of labor.

How fast shall we hurry labor under different circumstances? Of course, the doctor is always in a hurry and he may be very tired. When the cervix is not taken up, or even if taken up in length, but still rigid and thick, I consider it no time to hurry. Give an H. M. C. if the patient is suffering much, and go to bed and sleep, or go home if you can be easily gotten, or anything to kill time. If the patient is not suffering much, just wait. Often there

comes a time at the end of the first stage of labor when the pains stop or are not strong, are far apart and not effective.

If everything is all right and there is lack only of the necessary expulsion, pituitrin in $\frac{1}{2}$ to 1 c.c. doses is certainly the drug of choice and will save hours of time. Certainly do not use pituitrin until you feel certain the way is ready for the head to pass. In primipara with a small and resistant outlet, use pituitrin with care or you are likely to have a bad laceration of the perineum. The delivery of the head can be accomplished with much less likelihood of a laceration if the woman has enough anesthetic so she does not struggle, and if plenty of time is taken for the perineum to stretch.

Taking for illustration an ordinary case, we will follow through the different things, step by step. When called, I respond at once if at all possible. When I arrive and enter the room a glance will tell a number of things. How sick the patient is, and from that the need to hurry. The kind of people and general surroundings.

We will suppose she is up and about the room and says the pains are ten minutes apart and the water not broken. After asking the patient a few general questions I will soon have an idea of the temperament of the patient and what she expects, her past history, etc., I know better how to proceed.

Calling for basin and warm water and requesting the patient to prepare for examination, I prepare my hands. I first uncover and examine the abdomen by inspection and palpation. I note position of child and condition of abdominal walls. Next I expose the vulva in a good light and cleanse field. I insert the index finger of the right hand directly into the opening of the vagina while separating the labia with thumb and finger of the left hand. I note condition of vulva and vagina, whether lax or tight; moist or dry, condition of cervix, whether long or taken up, soft or rigid, and stage of dilatation, part presenting and amount of descent.

When dilatation is progressing and reasonably well completed I give a little chloroform on the mask with each pain, removing the mask between pains. When dilatation is complete I rupture the membranes, unless this has already taken place, with a finger, if I can, or by inserting two fingers in the vagina up to the head as a guide, between which I pass a hemostat, and grasping the membranes, tear a hole in them and enlarge the rent with the fingers. The unruptured membranes often delay descent, the head meets resistance at the inlet of the pelvis and some delay generally takes place. Severe pain and an extra hard expulsive effort often marks the passing of the head by this point, after which there is

likely to be a lull in the pain and a change in their character. They are then more expulsive and less distressing. As the perineum begins to bulge I lengthen the time the anesthetic is given with each pain till that point where the patient sleeps between pains, complaining some during the pain, but has no remembrance of it as soon as labor is over. I have some person present tend chloroform by my direction and **keep my hands** as clean and sterile as possible. Keeping control of the head by means of my fingers, I prevent a sudden descent from tearing through. By allowing the head to slowly pass the outlet, and pushing back the edges of the vulvar orifice between pains, delivery can be accomplished without tearing, if such is possible.

As soon as the head is born the cord is searched for, and if found around neck, it is loosened, the shoulders rotate or are rotated and then soon follow, helped if needed, by moderate traction or by hooking finger in armpit. The anesthetic is removed as soon as the head is born and the woman is usually awake and clear minded in 10 or 15 minutes, sometimes sooner.

The toilet of the woman and her comfort I attend to myself. By having a Kelly pad the bed is usually left in good condition. I leave tablets of bichloride to be put in the water to wash the vulva and buttocks, external use only, and marked poison; morphine 1/8 gr. No. 10 if after pains are expected. Abdominal binder used usually on lax abdomens, but not used as much as I used to.

Directions are to stay flat one week, when she may prop up, sit in chair tenth day, not to be on feet until two weeks are up.

When the child is born the cord is tied about one inch from body and cut one-half inch beyond, and wrapped in sterile gauze, to be later dressed permanently. It is then wrapped in a soft blanket and taken to a warm place. The helper is instructed to use olive oil or melted lard and thoroughly oil the child from head to foot, after which it may be simply wiped clean with a dry cloth or washed with soap and water. I attend personally to dressing cord, using a sterile gauze square of several thicknesses with a hole in center to bring stump of cord through, and dust thoroughly with a powder composed of one part salicylic acid and about nineteen parts of a mixture of starch and talcum, over which is placed more gauze and held by band.

One per cent silver nitrate solution is used in the child's eyes, followed by a normal salt solution applied with pledgets of cotton, and its mouth is wiped out with the same.

Until the last year I had done little or nothing toward the relief of a tight foreskin in the male children born under my care. I now

care for these at once by making a slit at the dorsum of the foreskin, back far enough to allow the foreskin to be completely retracted, separating the adhesions between foreskin and glands. If the nurse looks after this for a few days till healing takes place the results are good and the child at this time seems to notice very little pain. I usually see my patient at the end of 48 hours, at which time the case is usually closed.

ANNUAL MEETING—SEPTEMBER 11, 12 AND 13, AT GRAND RAPIDS, MICH.
GRAND RAPIDS HOTEL RATES

Hotel	Rooms	With Bath		Without Bath	
		Single	Double	Single	Double
Pantlind	700	\$2.50 to \$4.50	\$6.00-\$8.00	\$2.00	.....
Rowe	300	\$2.50 to \$3.00	\$4.00-\$4.50	\$2.00	\$3.00
Crathmore	200	\$2.00	\$3.50	.....	.....
Livingston	100	\$2.50	\$4.00	\$1.50	\$2.00
Merhtens	100	\$3.50	\$6.00	\$1.50	\$2.00
Cody	100	\$2.50 to \$3.50	\$3.50-\$5.00	\$1.50-\$2.00	\$2.50-\$3.00

The Journal

OF THE

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MAY, 1923

**Report Malpractice Threats
Immediately to Doctor F. B.
Tibbals, 1212 Kresge Bldg.,
Detroit, Mich.**

Editorials

"CALIFORNIA CALLS"

A. M. A. SAN FRANCISCO MEETING

The above is the convention slogan of the annual meeting of the American Medical Association to be held in San Francisco, June 25-29. The added catch-line—"Where the Sun Never Scorches and the Water Never Freezes" emphasizes the "call." Of course you are going and in selecting your route of travel we request that you consider the following routing and features.

GOLF SPECIAL TRAIN SAN FRANCISCO MEETING OF THE A. M. A.

As announced in previous issues, a special train, traveling on special schedule, and stopping each day enroute to enable the passengers to play 18 holes of golf, has been arranged to carry our members to the Annual Meeting of the American Medical Association, that is to be held in San Francisco the week of June 25. Stops will be made at Omaha, Denver, Salt Lake City, Lake Tahoe and Delmonte. San Francisco will be reached on Saturday, June

23. The train's equipment will be de luxe and every detail will be arranged for comfort and pleasure. Ground privileges have been secured on the finest golf courses at the points designated. Automobiles will be waiting to take you to these courses on the arrival of the train.

Your wife and family are welcome. If they do not play golf, provisions have been made to give them delightful automobile rides while you are attempting to defeat Colonel Bogey.

The fare is \$235.00 and includes round trip railroad ticket, half of a compartment, all meals, all automobile hire, all green and caddy fees and transfers your baggage to your hotel in San Francisco. Pullman reservations extra on return trip which may be made over several optional routes.

This is your last opportunity to make your reservations on this train. There is still opportunity to join this party, if you get busy at once. For further information, address, Dr. F. C. Warnshuis, Powers Building, Grand Rapids, Mich.

HYGEIA

Some two months or more ago the Trustees of the American Medical Association announced that in compliance with the instructions of the House of Delegates they would issue, under the name Hygeia, a journal of individual and community health. In other words, a journal written in a language that a lay man could understand and which would seek to enlighten the public in regard to the problems, achievements, and aims of scientific medicine, the work of the profession and the proven facts regarding disease and its prevention. The ultimate object being to enlighten the people in regard to the great fundamental truths of the science of medicine so that they would be able to differentiate between that which is based upon science and investigation and that which has no scientific, rational or potential value or foundation. This announcement caused hundreds of the members of the profession to applaud and support the project and this support was manifested by the sending in of their subscriptions to Hygeia.

For several years, the thinking men of the profession and those who were concerned in regard to the future of the profession and its relationship to the public concluded and gave voice to their conclusions by urging that some publication be issued to educate the people in regard to that which our profession was seeking to accomplish and what it was really doing for the public. That the need existed for the education of the public became more and more apparent as we observed and studied the business and lives of men, women and children. The solution of the profession's problems and

the acceptance of these solutions depended upon how well the people were educated to receive our views, our findings and our pronouncements. The conclusions that were formed, after a careful review and study of existing conditions by men who looked beyond the commercial aspect and who were possessed of ideals, was that some definite plan of education must be undertaken by the organized profession and that our parent, national organization should assume that responsibility and task. These same leaders joining with the American Medical Association accepted this stupendous undertaking and in their deliberations determined that their activity would be demonstrated by the publishing of a national journal that would impart information to the lay mind in regard to disease, prevention, the lowering of morbidity and enlighten them as to the tenets of scientific medicine and that which our science can bequeath to them for the betterment of their mental and physical welfare. Hygeia was thus brought in to existence and the first issue, the April number, has been given nation wide distribution. The editors are: Victor C. Vaughan, Sr., Morris Fishbein and Arthur J. Cramp.

We extend our hearty congratulations to our parent national organization and to these editors; first, upon the attractive appearance, size, quality of paper, and typographical workmanship. It has and conveys a most dignified and impressive appearance that causes it to at once assume a place among the foremost magazines of this country. Its make-up and form at once commands approval and arouses interest. You feel that it has individual merit. Secondly, we congratulate because of the subject matter that it contains. As two different and prominent newspaper editors stated to us: "It contains information that the public is seeking in regard to their health and the profession." The contents of this first issue demonstrates that the editors have grasped the scope of the ends that are sought and have well sensed as to how that object may be best attained. There is no doubt that future issues, which we are informed will contain similar articles, will at once arrest and command public respect and acceptance and so provide the education that the people need and seek in regard to scientific medicine. We feel certain that Hygeia will immediately command the professions approval. So we say, "Sincere Congratulations, you have done mighty well and we are proud of this result that attends your efforts."

The conclusion must be reached that Hygeia is one of the biggest and best things that the profession has undertaken during the past decade. Its potentialities are almost limitless. It cannot help but bring about a closer relationship, a better co-operation and a better understanding between the profession and the public.

But this cannot all be brought about by one or two issues or by a circulation of only seventy-five or a hundred thousand copies. This magazine must be made to reach the greatest possible number of people. Its contents, its instructive information, its impartings of the progress of our science must be impressed upon the people of every corner and hamlet of this country and to those who compose the different groups of society—the preacher, lawyer, teacher, merchant, manufacturer, business-man, banker, farmer, skilled and unskilled laborer, public official and the grand parents, parents, children and children's children. It must be made to reach all these that they all may profit by obtaining the information and education that Hygeia will convey to them. To obtain such wide and needed distribution demands the co-operation and assistance of every doctor and this means YOU, Doctor. This means that first, YOU must send in your own subscription for no matter how learned you may be Hygeia can add to that knowledge. Second, it means that YOU, Doctor, must talk Hygeia to your patients, your associates, your friends and to all with whom you come in contact. Tell them, urge them, induce them to subscribe for and read Hygeia. This is not the work of a few, or of any small committee. It is the work of EVERY Doctor to sell or give subscriptions to Hygeia to the people of your community. It is YOUR duty to cause it to obtain the widest possible public distribution. It is a duty that you shall not, must not neglect or fail to acquit yourself of. It is expected that the Doctors of Michigan will whole heartedly and promptly assume this responsibility. We urge that you immediately become aggressively active, for then there will accrue to you a greater respect, a greater confidence, a greater manifestation on the part of the people for the professional work that you are performing in your community. Get busy today and keep busy until you have brought Hygeia to every home in your vicinity.

SOUTH AMERICAN MEDICINE

Off Barbadoes
April 9, 1923

Dear Dr. Warnshuis:

As I promised, I am writing you a little sketch of the journey made by this group of the American College of Surgeons into South American waters.

We left New York February 10th on the steamship Van Dyck which had been chartered for the purpose. About 150 surgeons are on board with their wives and families. We expect to reach New York next Saturday, making a journey of nine weeks, six weeks of which will have been spent on the water. The cruise

was gotten up under the direction of Dr. Franklin H. Martin for the purpose of becoming better acquainted with our South American professional neighbors, observing their facilities and methods of surgical procedure, bringing about a freer interchange of thought and visits between the surgeons of the northern and southern continents of the new world. Incidentally, we were afforded an opportunity for ourselves and for our families to enjoy a wonderfully pleasant and interesting cruise in tropical seas at the best season of the year.

We visited, in order, Havana, Panama, Cartagena (Colombia), La Guayra and Caracas (Venezuela), Port of Spain (Trinidad), Rio de Janeiro (Brazil), and Buenos Aires (Argentina). At this point, some 50 of our party separated from us, crossing the Pampas of Argentina and the Andes, to Valparaiso, Chile, from which point they are returning to New York by way of the western coast of South America. The remainder of the party, numbering some 220 or 230, are returning by way of Montevideo (Uruguay), spending another two days at Rio and a day and a half at the beautiful island of Barbadoes.

The representatives of the governments and, with the exception of Colombia, the Presidents themselves, met us in formal reception. The medical societies everywhere had reception committees arranged and in Rio, Buenos Aires, and Montevideo, the Faculty of Medicine arranged formal scientific meetings at which various members of the cruise shared with our South American friends in making up the scientific program.

Honorary membership was bestowed upon Professor Herrera Vegas in Buenos Aires, and Dr. da Fonseca, the Secretary of the National Academy of Medicine of Brazil, in Rio. Several other honorary memberships were given in other countries visited. Especially to be noted is that given in Panama to Dr. Boyd, a native of the Republic, who is the Chief Surgeon of the San Tomas Hospital and very popular in his own republic.

In Rio, Dr. F. N. G. Starr of Toronto and Dr. J. O. Polak of Brooklyn gave the scientific addresses in behalf of the college. In Buenos Aires, Dr. Hugh Young and yours truly were the goats and had to the work. Young gave his paper in English with interspersed explanatory remarks in French. I gave my paper in Spanish which seemed to be very pleasing to our South American friends. The meeting in Buenos Aires was presided over by Professor Arce, the Rector of the University of Buenos Aires and the head of the Surgical Department. The new Surgical Institute, which was recently inaugurated under his charge in Buenos Aires, is one of the most beautiful and completely equipped surgical in-

stitutions I have ever seen, replete with the most modern surgical equipment, laboratories and x-ray apparatus imaginable.

In Montevideo we received perhaps the warmest reception accorded us on the eastern coast of South America. The government, the doctors and the American consul vied with each other, as they did also in the other places for that matter, in providing entertainment and instruction for us. Very elaborate programs of clinics were arranged and carried out. In the formal scientific meetings held at the Faculty of Medicine, the college was represented by Dr. Barnhill of Indianapolis, Dr. Kennedy of Arizona, orthopedist, Dr. Crowell of Charlotte, North Carolina and again, yours truly. In this place, each of the American surgeons had prepared a summary of his remarks which were kindly translated into Spanish and read by Dr. Nin y Silva who acted as Secretary of the Committee of Arrangements of the Medical Association of Uruguay. My own remarks were again given in Spanish, which I was very thankful to be able to do.

The first two days we spent at Rio were largely taken up by formalities so that we had not really gotten a square look at the clinical facilities in that great city. In fact, we were so struck by the wonderful natural beauty surrounding Rio that I am afraid most of us were more interested in seeing the beauties of nature than watching clinics. We therefore went back to Rio for a second time, on which occasion we had a very good opportunity to see clinical surgical work.

We learned a good deal from our trip—some things which were helpful and which some of us will adopt, and some things which we will take pains not to do. We saw surgery, both good and bad; but probably no greater proportion of the bad than can be seen in any community of the civilized world in which surgery is practiced. The surgeons are mostly European trained and therefore their methods are largely European. It is a saying among the doctors of South America that they go to France for surgery and to Germany for internal medicine. Some go to England and some to Italy; and now, especially during the last few years, there is a growing tendency for these men to visit the United States. I would be greatly disappointed if in the next few years we do not see a large number of the South American fellows of the college in the clinics of the United States and Canada.

The technic of the surgical work was usually good. Some of it was strikingly good. It is probably better not to mention names; but I saw in some of the clinics the equal of any surgical work I have seen in this country. The surgeons are all good anatomists and their dissections clean and intelligent.

The surgeons, I should say, were greatly hampered by the lack of intelligent nursing assistants. In fact, in most clinics, trained nurses were conspicuous by their absence. In most of the clinics the surgeons themselves lay out their own instruments, threading their own needles, and helping themselves usually with one assistant only; and this one assistant was often given retractors to hold in such a way as to keep his hands out of the way of the surgeon. In spite of this, their operations were done with the rapidity characteristic of the French and German surgeons who operate in this manner using the Reverdin needles or else sewing by the ordinary needle, held between thumb and finger. In a few of the clinics, we saw needles and needle holders employed after the manner customary among us; but these were in the clinics of men who had been to visit us or who were graduates of colleges in this country.

The nursing arrangements are very unsatisfactory and the doctors themselves recognize this more keenly than any of us. The British Hospital in Buenos Aires had established a nurses training course many years ago. Since the war, new impetus has been given the training of nurses; for many of the South American surgeons served in French and Italian Hospitals and brought home with them the appreciation of the help afforded by well trained nurses. So there are now at least five training schools in the three republics just mentioned, not to speak of others which may be in existence on the west coast.

The operating rooms were for the most part well appointed, especially in the newer buildings; but even in these, with very rare exceptions, for some curious reason, there were no window screens and our appreciation of their surgical skill was marred at times by objectionable efforts to catch disturbing flies. After having seen the great sanitary accomplishments at Panama where both flies and mosquitoes are conspicuous by their absence, it was difficult for us to understand why the same immunity from these pests should not be enjoyed in Rio and Buenos Aires. For that matter, we all wondered why the same relatively simple measures which accomplished such miracles for Panama would not bring about the same Utopian condition, as far as insects are concerned, in our own communities in the United States.

As anesthetics, we saw chloroform, ether, local infiltration, and spinal anesthesia used. Chloroform was not used very often. Ether, when given, was employed usually with the Ombredanne mask, so popular in France, and well liked by most of us who saw it used in France. Infiltration anesthesia was freely employed, and spinal anesthesia (or lumbar anesthesia, as I prefer to call it) was quite popu-

lar, especially in Rio and in Buenos Aires. Professor Arce of Buenos Aires is perhaps the most ardent advocate of lumbar anesthesia in the southern countries. His recent visit to Cuba a year ago last fall inspired a number of Cuban surgeons to undertake lumbar anesthesia and all the abdominal operations I saw done in Havana were accomplished under lumbar anesthesia. Some lumbar work was done in Montevideo; but for some reason they haven't gotten enthusiastic about spinal anesthesia there yet. This spinal anesthesia work was especially interesting to me for as you know I have been doing quite a bit of this for the last few years. Most of the American doctors on board seemed to share the prejudice which almost universally exists in this country against this form of anesthetic and many of them were agreeably surprised by the results which they saw. The percentage of anesthetic failures admitted by our southern friends, however, was greater than I see in my own work, and greater than I have seen in France and in Germany.

One rather amusing circumstance occurred in Cartagena which shows that human nature is more or less the same the world over. An American (United States) doctor who formerly lived in Cartagena had operated on a young man for appendicitis. I was rather amused to see the following note in the Cartagena paper, the day we arrived there. This is a rough translation as I recall it.

THE OPERATION LAST NIGHT AT THE CHARITY HOSPITAL

"Last night, there was operated on at the Charity Hospital, Mr. So-and-so, age 22, for acute peritonitis. This gentleman was operated upon about a year ago for appendicitis by the American Dr.———, in the now extinct Cartagena Hospital. The young man made an excellent recovery and for about a year enjoyed good health; but recently he was seized with sharp pain in the abdomen and with distention and other symptoms which led Dr.——— of Cartagena (the native doctor) to make a diagnosis of acute peritonitis. At operation, it was found that through a serious mental oversight on the part of the surgeon who operated in the first place, a gauze sponge had been left in the abdomen. Our Dr.——— found this and removed it and the patient is now making an excellent recovery.

"Regarding this regrettable incident, we will maintain a discreet silence (sic!) only permitting ourselves to add that Dr.——— (another native) who was formerly associated with the now extinct Cartagena Hospital, assures us that he had nothing at all to do with this operation, which was performed by Dr.——— (the American) alone."

I do not know that if any one there had any idea that we would read the Spanish news; but it was interesting to us in view of the fact that that very morning we had been shown into this young man's room at the Cartagena hospital and found him in good condition; but with the offending gauze sponge in a pan on the table by the bedside; and the sponge was

dangled before his eyes for exhibition while we were in the room.

In reviewing my remarks regarding the lack of nurses, we were interested to know how the patients were taken care of after operation. In the public hospitals to which, with rare exceptions, private patients never go, the patients are put in large wards and taken care of by attendants who are given more or less training by the hospitals under the supervision of one of the few trained nurses which are available. Most of the trained nurses get into the private hospitals or "health homes," of which there are a great many in these southern cities. Every surgeon of any consequence has his own private hospital to which he takes only pay cases. In these, the patient's rooms always have two beds, one for the patient and one for a relative, and the patient is supposed to bring a relative or friend who will help in the after care. The doctors themselves attend to the dressings, of course, personally, and there is supervision afforded usually by a floor nurse who is a graduate. Some of the most beautifully equipped surgical institutions I have ever seen were these private hospitals in Buenos Aires, Montevideo and Rio.

Most of the equipment is of European manufacture. Most of the instruments for general surgery are from France, made by Collin. Some of the eye instruments are of English and German make.

I found a good deal of skepticism of the quality of American goods, owing to the unfortunate fact that during the war a number of American manufacturers (I am not referring to medical or surgical supply houses) flooded the South American market with second and third rate goods after requiring cash payments in advance. The courts are still full of lawsuits growing out of this attempt to fool our southern neighbors (at least this is their story), and it is only slowly that confidence in the quality of North American goods is being restored.

It is interesting to note, however, that all the iron pipe in the Buenos Aires water works came from Toronto and the great majority of the motor cars seen in South America come from the United States. The market is gradually being reconquered; but time will be required to overcome this unfortunate prejudice created during the war.

The medical schools in South America were very well equipped. In fact, the only medical schools which I personally inspected, those in Rio, Montevideo and Buenos Aires, were exceptionally well equipped in very fine buildings. Accessories of all kinds for laboratory and clinical work were supplied in abundance. Yet, it seemed to us that the quality of work being turned out by these medical schools was on the

average not as good as with our schools, in spite of the wealth of equipment. The extraordinary number of holidays, 50 for the year besides Sundays, the discouragement afforded continued physical and mental effort by the tropical climates as well as a hereditary inclination to do nothing that one can hire some one else to do, probably all share in accounting for this. While the medical students are given six year courses, corresponding to our six year combined courses for B. S. and M. D. degrees, there is not the same opportunity afforded for the intimate surgical work such as we see in our own schools.

It is evident that Spanish should be given a more prominent place in the schools of the United States, if the coming generation expects to maintain intimate and mutually profitable relations with the South American countries. Spanish is the universal language except in Brazil where Portuguese is spoken. One who speaks Spanish gets along very well in Brazil, for the two languages are very similar. All these doctors have studied French and the majority speak it fluently.

One of the objects of the cruise was to participate in the laying of the corner stone of the Gorgas Memorial at Panama. General Gorgas was probably greater loved and his work better known in some of the South American republics than in his own country; and therefore, it is not surprising that the South American republics should without exception join heartily in the effort which is now represented by the Gorgas Memorial Foundation with headquarters in Washington. Dr. Franklin H. Martin is the Vice President of the Gorgas Memorial Association. Dr. Dowling of New Orleans, Dr. Starr of Toronto, Dr. McDougal of Halifax, Dr. Polak of Brooklyn, Dr. Young of Baltimore, and several other surgeons equally prominent in this country assisted in the ceremony of laying the corner stone. It is to be hoped that the medical profession of the United States will join heartily in support of this movement which is still under way, and which will still require considerable effort on the part of the doctors before it is brought to a successful conclusion.

J. T. Case, Battle Creek, Mich.

Editors Note: We feel very certain that our members will read with pleasure this interesting letter of Dr. Case. It gives us an insight to South American medicine and its medical profession. We extend thanks to Dr. Case and are proud that he so ably represented Michigan at the formal meetings.

THE BUSINESS END OF OUR PROFESSION*

Day by day, in every way, we doctors are getting better and better—done.

Kindly repeat this twenty times a day, then ponder and think.

This is the open season for all forms of medical quackery and humbuggery. Insanity is on the increase, and with it flourish the near-insane cults and ever increasing multitude of quacks and charlatans; and in inverse proportion to their merits will they be exploited by cleverly devised schemes to attract attention, in accordance with the principle that empty barrels sound the loudest. They sell their wares, not by merit as doctors do, but by the wonderful sales talk of the most able advertising specialists whose limit for falsifying and misleading is only the amount of such stuff their ignorant or unthinking patrons will absorb.

Not only the ignorant and uneducated, but many persons of some education and refinement are misled by the glib talk of "subluxated vertebra," "impinged nerves," "electro-vibro diagnosis," and "day-by-day-in-every-way" slogans, till they accept as truths what their reason would promptly reject, were they not more fond of guessing than of thinking. They become firmly convinced that all ills can be cured by punching the spine, sending a drop of blood to New York, or repeating a slogan a few times.

Recall the advertising done by the chiropractors, when one of their number was called in, at his own request, to see a case of "sleeping-sickness" after a doctor had treated it a few days. This patient, it was claimed, went to sleep an hour or so after the spine-punching by the "chiro," and of course the unthinking public do not exert their brains sufficient to recall that sleeping is the main characteristic of this disease, so much so that it gives it the name, "sleeping-sickness," hence that ad was sufficient to convince thousands of gullible victims that chiropractic is a science. This ad, however, did not state that said patient grew worse and worse, day by day, in every way, after each of the spinal adjustments of impinged nerves by said "chiro-doc," until the parents were compelled to dismiss him and re-employ their doctor, and the patient recovered. True, this case was reported in the medical journals, but only doctors read them. The public heard only one side, consequently this "chiro" ad did as much good to the "chiros" and as much injury to the doctors and general public, as though there had been no such exposure of their false claims.

You also recall the half-page ads in the state papers, in which the Eddyites asserted that "fear is the cause of all evil," including illness, but when you reply that they might as properly claim that fear is what makes the earth revolve or makes your auto run out of gas in the middle of the night, 20 miles from a filling station, they are silent, or say "you can't understand."

When a college trained Christian Science mother claims she can dip her hand into a boiler of scalding water without injury, she is "dippy;" when she lets her two-year old baby play on the railway track unattended, and says she has not a particle of worry for its welfare, we are inclined to believe that there is much need of enlarging our insane asylums, and getting after the faddists responsible for getting them that way.

Even the Deity is represented as boosting for the quacks. Notice this ad: "If Jesus Christ were to-day walking the earth among men, He would be distributing samples of Vita-ore instead of loaves and fishes." What a combination! Vita-ore, iron sulphate and Epsom salts and Jesus Christ.

While treating a pneumonia case in our county, I noticed a paper printed by healer Boswell in Detroit, in which patients were alleging all sorts of cures, and I was impelled to remark that if this religion taught them to lie like that, I would be inclined to think their faith came from the direction opposite to Heaven. Among the cures was an interesting account of a woman from Mt. Pleasant,

who reported that a local doctor had diagnosed a tumor, and she was on her way to Detroit to get cured by Boswell, when the tumor disappeared on the train, and thus Boswell had saved her. If he did, he has much to answer for.

These seem ludicrous to us, but to laymen they are just as potent as though they were realities, and this same family I was then visiting had an epileptic young woman "cured" in one seance with this same healer, and when she died the same week presumably in an epilepto-hysterical fit from getting "cured," this family wrote a long "Praise the Lord" article for the newspapers, commending her "cure" by this wonderful faker. Had this case been so mistreated by a regular doctor without any such sacrilegious bunk, there would have been a \$15,000 damage suit.

One important reason for the success of such persons as Lorenz and Coue, is the prominence given them by the newspapers, when ethical medical men do not keep press agents, and it is a fact that millions of persons judge ability by the amount of newspaper propaganda. They love to take ready-made verdicts of the press. The Journal of the A. M. A. says: "To the unthinking mind it is merely necessary to repeat a matter five or six times, in order to make a fact. There are more people cuckoo than Coue."

Dr. S. B. Finney, evidently a licensed, but non-graduate doctor of Delta, Ohio, "gives great pains to his patients" by mail, claiming to tell what is the matter with persons who send only name and age. To test his ability, my son sent his name and age, and received in answer a long letter, bulging with about every ailment possible, and several impossible, in a human, except endometritis, and he probably omitted that, not knowing from the name Vernell, whether male or female. From the long list of ailments, infirmities and "mis-fonctionings" of his system, and "renovations" required, it would seem that the only way to restore him would be to scrap the whole machine and get a new lock stock, and barrel; but this general old quack agreed to fix him up all right for \$3.17, broken and missing parts included. Thankful that he had not been charged at garage rates, I sent this wonderful long distance diagnosis to our state secretary, who sent it to the P. O. inspector, but I have not heard of any arrests for fraudulent use of the mails as yet.

Another case: An Indian herb doctor named Bernard, living near Shepherd, and practising all over where picking is best, looks into the eyes and hands out ready filled sacks of such remedies as ground alfalfa and boneset and treats 218 patients at \$2.00 per in one day in a town where six regular but modest doctors are reading their bible or shooting craps for want of other occupation. He has been doing this for years, right under our observation, and even sent medicines by mail C. O. D. to strangers giving no symptoms whatever, though I understand the P. O. department has at last stopped his use of the mails, but it seems impossible to get the officials to convict him of practicing medicine without a license.

The "Doctor" in a traveling medicine show was arrested at Clare for practicing medicine without a license, but I was compelled to make the complaint as prosecutor and sheriff refused. The judge fined him \$10 and small costs, after suggesting that I should not bother him since the people were old enough to know what they wanted; but his hooch cases do not get the same argument applied. That is almost exactly the amount this same judge fined me for driving my auto one day before receiving my license plates ordered a week before, in a case of saving the life of a man having a severe hemorrhage, when I had no time to wait for a taxi. In the

same city lives a man who paid \$1509 for first offense of having a little "hooch" in his possession. Thus is seen the relative importance of these three illegalities, as judges consider them:

First, Trifling with innumerable human lives, by a quack, \$10 fine. Second, Saving a human life, by a doctor, nearly \$10 fine. Third, In pursuit of human happiness, by a bottle, \$1509 fine. Isn't that fine? At that proportion, the doctor should expect a life pension if he should kill a man.

Is there any wonder such ridiculous conditions exist? Besides the newspaper mis-education of the public before mentioned, frauds have many other agencies. The superintendent of a \$200,000 school in a city not a thousand miles from my home city Clare, and his wife who also is a teacher in same school, take a handkerchief rolled in the hands of the ailing one, wrap it inside a dollar bill, (other paper spoils the charm) and send these to a woman in New York, who writes or telegraphs back the appropriate (?) treatment for the conditions found in the handkerchief—and thus our money goes merrily on in immense taxes to build such schools and hire 1923 model teachers of that calibre.

Speaking of taxes brings us to consider our state legislature. You recall last legislature's famous Chiropractor bill, authorizing them to treat diphtheria, appendicitis, ectopic gestation, and all other human ills by their "one skillful thrust" on the spine, and said bill contained a beautiful joker that recited that "all other acts in opposition to this are hereby repealed," thus by one skillful thrust they legislated every Michigan doctor out of existence, and made it a crime for any one to employ any but a chiropractor. This bill was passed almost unanimously by both houses and was on its way to be signed by Governor Grosbeck, who is reported to have given his pre-election promise to support such bill, when some one got busy and our legislators began to hear from home, and the bill was promptly recalled, reconsidered and rejected. This same legislature voted about \$7,000,000 for the U. of M. requirements, when three-quarters of one million was the usual requirements; and this at a time when over half our farmers are unable to pay any taxes; much of this money being wanted to build a wonderful hospital to further attract our patients. Again this year they are asking for another \$7,000,000, and there will be many more such requests, saying they absolutely require this money, regardless of the desperate plight our farmers are in. If such expenditures are kept up, it would appear that the hospital must be greatly enlarged to receive the future pauper patients who are now our best pay patients.

This big expenditure is presumably to give suitable clinical material for the medical students. In other words, the U. wants this money to take our patients to teach our sons to become well qualified physicians and surgeons, then when graduated as such, the U. will contend that they are not qualified to treat a case of piles, and ask that they send their patients to the U. hospital to teach their sons, etc., etc., ad infinitum.

Last and most important, I shall find fault with ourselves. Doctors are proverbially poor business men, and it seems to me that we practically all need a post graduate course in modern business methods.

We spoil the public by using it too well. We are so busy increasing the standard of medical education, aiding in research work, giving millions of dollars in money and services to charity and ungrateful deadbeats, spend our hours of rest in answering Volstead questionnaires, and keeping tab of the narcotic and income-tax reports and alcoholic percentages, and promoting everything that

has to do with public health and sanitation, thereby decreasing our incomes—so busy that we have little time nor thought for our personal welfare.

Doctors should charge a reasonable fee, and insist on collecting it promptly. Some doctors insist on being paid when the party has nothing else he can use the money for. Such doctors, as is said of Dr. Goldsmith, give all they have, and sleep in the feathers, only, such doctors have no feathers—in this world.

Some insist on a settlement yearly, by cash or note—if the patient has not conveniently moved away. Some prefer the six months' plan, others the three months', and so on; but as no other business on earth is run on such plans, I see no reason why we should give our patients so long to get rid of our money, and I therefore have all my statements bear the significant legend, "All bills are due when services are rendered," and it might be a good idea to have them read "before services are rendered," in a goodly number of cases, to which you will surely all agree.

It certainly seems strange that a doctor, with all his years of costly study and experience, and his very large expenditure for equipment of the highest order, should offer his services for less than a raw recruit in a garage will charge you to fix a balky spark plug or repair an inner tube. Proportionate to our outlay and preparation, we should charge him about \$3,000 for an operation on his "inner tube."

You get your car stuck in the mud going to see a patient that never pays, a farmer with a team comes along and charges you \$2 for two minutes' work, and you cheerfully pay him cash, never a year's time, but if you charge him \$2 for discovering he has elephantiasis of his nerve, he is sore about it.

A lawyer charges \$1,000 cash for keeping his client from going to jail for six months, whereas a doctor charges perhaps \$25 for keeping him from going to Hades for eternity. Also we often have to wait that long for our \$25.

Of course I do not advocate unduly harsh methods. We are all soft enough when the right time comes, and I need not dilate on that. It is a fact, however, that your ability is often judged by your charges, and you may be surprised how your kind hearted act in making a small charge is often misinterpreted as a sign of inferiority, even by otherwise deserving patients. I saw a skillful trephining operation done on a boy, for which the father was charged only \$25 by the sympathetic surgeon, shortly after, a neighbor said to that father, "That was quite an operation your boy had," to which the father replied, "Oh, nothing much, only a little \$25 operation; but your wife's was some operation, I heard it was a \$300 trachelorrhaphy. "Yes, sum operation—the sum of \$300."

A patient was sent to me by a brother physician, and I asked him, "Didn't the Doctor know what you had?" "Seemed to have a pretty accurate idea—he asked me for ten dollars, and I had only eleven."

Another doctor was called five miles into the country one rainy night to visit a man who had swallowed a Canadian penny, but on arrival he was told from the window that he was not wanted, as the man had coughed up the penny. The doctor, however, was not so easy, and told the man to get busy and cough up \$5 for his trip, which he reluctantly did, and has been a good friend ever since; whereas, had he been lenient with him, he would have had neither friend nor \$5.

A proper charge will also do your patients much good. You will be surprised how it will hasten their

recovery when they find you are charging them \$10 a visit.

Petty political grafting causes very many of our patients to be sent to Ann Arbor at public expense when well able to pay their own way. It is not difficult for a man rated high on the tax roll by his supervisor, to be rated as a pauper by this same supervisor and an accommodating probate judge, when said man has a few good political votes at his command, and such officers do not always stop for legal technicalities, as in this case:

Last June a Clare County boy of 20 years broke his neck; completely paralysed below the neck, but living for three weeks, he developed a very extreme hypostatic pneumonia, with a temperature of 103, pulse 126 to 130; had also a severe cystitis with complete urinary retention; developed several bed-sores and trophic ulcers, and in this dying condition was illegally railroaded at public charge to the U. hospital through influence of an accommodating supervisor and probate judge, who both were well informed of all the circumstances, and despite the very emphatic report of the attending surgeon that the parents were well able to pay their own bills, and that said patient should not be moved, and would not be benefited by hospital treatment, giving in detail the reasons as above recited.

This recipient of public charity was a farmer who owns a 560 acre farm, more than ordinarily well equipped, having 34 cattle, 36 sheep, 5 horses, also tractor, truck and auto, a gas engine, ensilage cutter, threshing machine, blacksmith outfit, a small stock of a general merchandise store, in addition to the usual machinery of a well developed farm. This appears a fairly good equipment for a pauper, eh?

Now let us consider what means we have for combatting these conditions. First, we have the pure food law, which has done much to restrict the nostrum evil, with the assistance of the American Medical Association and several good magazines in that behalf.

Next, we have the health-lectures program of the joint committee of the State Medical Society and the U. of M. which will do some educational work; also we have a little (accent the little) individual work, in spots, to curb the illegal practice of medicine; but since we have at least four "doctors", one chiropractor and several druggists openly practising medicine in Clare County without license—one doctor right under the shadow of our county court house, with no officials willing to take action against them, it seems that some further system should be devised to curb their activities.

The trouble is, there is no one directly responsible for arresting these illegal practitioners. Our State Medical Society, our County Medical Society, our sheriff, prosecuting attorney, the attorney general of Michigan, the State Board of Registration, and most of us individually, seem content to pass the buck. As a rule it is obviously not desirable for a doctor to be compelled to take the brunt of the prosecutions alone. In union there is strength—if you don't believe it, notice what happens when one of your auto wheels comes off.

Why should we be compelled to compensate for existence with such illegal quacks? I presume there is an illegal school teacher, lawyer or dentist in Michigan. The dentists have a Board of Examiners who look after this work very successfully and I would suggest we take united action to secure some such body to look after our problems, or that an ethical business organization of the state, a Medical Chamber of Commerce so to speak, be instituted to take care of all propositions as affect the business end of our profession.

If we continue on as we are doing, we will have the satisfaction of earning a reward in the great

hereafter, where quack and politician doth not corrupt, while our quack friends have of course gone the opposite way, but even that might possibly have its draw-backs, if the story is correct as told of two friendly Irishmen, a doctor and a chiropractor who died. The doctor of course went to Heaven as all doctors do, while his Irish friend the chiro, because of the life he led, went in the opposite direction. The doctor worried as to his friend's condition, and called down, "What are ye doin', Pat?" "Oi'm shovellin' coal." "Do ye wo-r-r-k hard?" "Not very, we have plenty of shifts, and I wo-r-r-k only about two hours a day. What are you doin', Doc?" "Foith, an' Oi'm sweepin' off the golden stairs." "Do ye wo-r-r-k hard, Doc?" "Yis, very hard—about 20 hours a day—we're very short-handed here."

It is positively ridiculous that we, the most expensive products of the finest colleges on earth—we, the 1923 model doctors who ease their aches and pains through infancy, guide and instruct them, and kidnap their offending tonsils, adenoids, prepuce and appendix in childhood, answer their S. O. S. calls for 606 and lie for them in their adolescence religiously guard their secrets in maidenhood, add grace and beauty to them in vigorous man- or- womanhood, annex glands to make monkeys of them in their impotence, and make soft their rough places in their declining years, and pray for them and ease them in death—it is ridiculous, I repeat, that we, the legal guardians of our citizens' lives, health and happiness from embryo to dust, should as I have shown, be made the goats of all creation.

*Read at the regular meeting of the Gratiot-Isabella-Clare County Medical Society, at Alma, Jan. 25, 1923, by James A. Reader, Clare, Mich.

A PUBLIC HEALTH POLICY

The Editor of the Journal of the Michigan State Medical Society:

The editorial entitled, "The Need for a State Health Commission Policy" on page 212 of the April Journal is well worth the time spent in reading, not only to every doctor in Michigan, but every man in the United States who can honestly write M. D. after his name. If any man ever wrote the truth as I see it, and expressed himself just as I would have expressed it, if possible, it was expressed by the editor of that article. In closing he asked the question, "What is your opinion?" I therefore am led to believe that he wishes some responses from the rank and file of the profession throughout the state, and I am accordingly giving mine.

It is very plain to everyone that there is a rapidly increasing tendency toward socialized medicine in all centers of population, and I am not too certain but that even the state of Michigan in its over-zealous endeavor to eradicate venereal disease, to give the unfortunate victim of tuberculosis his every chance, and the "Saving Mother's and Babes' campaign," may be unwittingly lending some influence in its behalf. I do not believe that the City of Lansing is any different in its system, or lack of system employed at its health center, from other cities. Doctors in every city, in every line of practice, I am certain, are willing to do all that may be required to be done without pay, for all those in need of services in any branch of medicine, who are unfortunate enough to be in a position unable to pay at least a moderate fee for the service, and whose conditions are such as to make it difficult for them to obtain credit owing to the probability of their inability to pay in the near future. We do, however, feel that there should be some kind of a check up system, so that those who may come and sign the blank asking for free treatment for themselves or some member of their family, may be fol-

lowed up and found to be honestly entitled to free service. I do not believe it to be to the best interests of the people themselves, the poor who are making an honest endeavor to support themselves unaided, the people at large, i. e., the taxpayers, or the medical profession, that this aid should be extended by institutions or health centers, without their system including the employment of a competent agent, whose duty it is to go immediately after application for free service and ascertain the following information: (1) The condition and health of the family, especially its main support. (2) The place of employment of the head of the family and the wages earned. (3) The size of the family and in general their ability to be self-supporting. After a report based on such information, decision could easily be reached and placed in its proper classification, which to me it seems should include: First, treatment absolutely free. Second, able to pay a small fee. Third, able to pay. And this information sent to the physician in charge of the case, that he may know how to justly deal with the case to the best interests of all concerned.

Another situation confronting us, which is well worthy of consideration, both to the laity and the profession, is the encroachment on the legitimate practice of medicine by the health center officials and their co-workers in the public schools, where health center nurses make superficial examinations, oftentimes giving a false sense of security to the pupil, which is conveyed by them to the parent, and later, developing trouble forces them to a medical man, where the diagnosis given by the nurse was proven incorrect. Or again, if a pathological condition is actually discovered, they are sent direct to the health center for treatment instead of their family physician. As soon as school boards are educated to the fact that, from a standpoint of dollars and cents alone, the money saved by hiring a medical man, in whose hands would be placed all matters appertaining to the physical condition of school children, and all other health matters effecting the school, the better it will be for all concerned. For then all examinations will be sent to the parent, with a report of the physical findings with advice to consult their family physician, oculist, aurist, laryngologist, dentist or other medical man, as the case may require, thereby placing the child in a legitimate medical channel, where most people prefer to be placed, still leaving them the choice of the free health center if they so desire. All the good editorials and all the good thoughts, written or unwritten, however, are going to accomplish nothing unless, after being convinced of our past sins of omission, we do something definite regarding the matter.

I believe the suggestion in the article referred to, concerning the calling of a conference composed of representatives from each county society, is the best plan.

Let's do it NOW.

Earl H. Foust,

552 Capital National Bank Bldg.
Lansing, Mich.

Editorial Comments

"How little the average person knows of the trials and tribulations of the busy surgeon's life, the anxious hours he passes, or the burden of care that is always his!

"Only those who have practiced surgery and know the painstaking attention to details and eternal vigilance required, not only to assure the results sought, but to prevent disaster, have any idea of

the moments of discouragement and depression that are bound to come to every conscientious surgeon who operates extensively. Let no one think that the most successful surgeon does not have days when some malign force seems to nullify every effort. He may be routed out of bed at daybreak with the news that some case seemingly out of danger, has had a serious hemorrhage; when he reaches the hospital, the elevator may be stalled and a climb of several flights of stairs be necessary; the patient, who suffered a secondary hemorrhage, may have passed away; his instructions as to the preparation of the first patient to be operated upon, may have been ignored, and yet the conditions may not prevent a postponement; the next patient may take the anesthetic so badly as to be in danger throughout the operation; the diagnosis in this case may prove all wrong, requiring an entirely different technique than originally planned; when the time comes for closing the wound, the sutures desired may have been forgotten, or nervous and disturbed, the surgeon may fail to exercise his usual care, and though the sutures be those he always employs, he may tie them so quickly, or use so much more force than usual, that he will break several before he realizes that the fault is his; and then to cap the climax, the patient may collapse and "a death on the table" be avoided only by the hardest work.

"So it may go the whole day through until at last, when he lies down to a well earned rest, he will wonder, as any other tired over-wrought man will, is it all worth while? Is the effort, the thought, the painstaking attention to detail, the constant strife against difficulties, the continual coping against the unforeseen and the unavoidable, justified by the result? Why not take things as they come, be satisfied with doing one's duty and doing it well, and stop striving always to give one's best? Are the material rewards of surgery, the constant strain of forgetting one's self, the frequent disappointments and the inevitable worries, really worth while?

"Then as memory conjures the satisfaction of past achievements, the many homes made happy by the restoration of a mother, a father or some other dear one to the family circle, the little ones saved from chronic invalidism, the many sufferers relieved of their pains and disabilities, and made useful members of society, and finally, the opportunities for greater triumphs over difficulties, the answer comes, yes, a thousand times, yes! And the trials of the day just passed, are forgotten in the prospective tasks of the morrow."

—Notes and Abstracts.

Goitre is not a contagious disease. An individual having a goitre is not dangerous, nor does he or she exercise a harmful influence upon any person with whom he comes in contact. Goitre incidence is not threatening the health and welfare of the public or of children any more than is rickets, hypertrophied infected tonsils, vision defects or defective, decayed, infected teeth. Then why should health officials undertake to provide free treatment for cases of incipient goitre as found among school children? Is it not just one more step by health officials to enter in upon the practice of medicine—socialized medicine? To provide for the indigent is commendable. To provide free treatment for all and to usurp the work of doctors merits condemnation.

Houghton County Society has sent in a live monthly report. You will find it under County Society News. County secretaries are urged to emulate this example.

For every height and for every age there is a point beyond which no man should allow his weight to go if he desires to remain vigorous and healthy.

These weights have been determined by many observations and scientific studies and are in no sense arbitrary statements.

Ages	15..24	25..29	30..34	35..39	40..44	45..49	50..54	55..59	60..64	65..69
5 ft. 4 in.	131	135	138	140	143	144	145	145	144	143
5 ft. 5 in.	134	138	141	143	146	147	149	149	148	147
5 ft. 6 in.	138	142	145	147	150	151	153	153	153	151
5 ft. 7 in.	142	147	150	152	155	156	158	158	158	156
5 ft. 8 in.	146	151	154	157	160	161	163	163	163	162
5 ft. 9 in.	150	155	159	162	165	166	167	168	168	168
5 ft. 10 in.	154	159	164	167	170	171	172	173	174	174
5 ft. 11 in.	159	164	169	173	175	177	177	178	180	180
6 ft. 0 in.	165	170	175	179	180	183	182	183	185	185
6 ft. 1 in.	170	177	181	185	186	189	188	189	189	189
6 ft. 2 in.	176	184	188	192	194	196	194	194	192	192
6 ft. 3 in.	181	190	195	200	203	204	201	198	.....	.....

(Note From Symond's Table of Height and Weight for Different Ages).

Obesity is, in a vast majority of instances, due to ignorance or neglect. Obesity always brings on a number of disagreeable symptoms. The fat individual is never as efficient as he would be if his

weight is reduced to the number of pounds he is structurally equipped to carry. The fat man invites disaster in the form of structural and organic defects. "The longer the waste line, the shorter the life line."

BUCK UP

We doctors at present seem to be in quite a muddle, But I guess we're not the only ones who have a little trouble.

If we believe all we are told and everything we hear, You can bet we're through with medicine for the end is mighty near.

It looks as though the old profesh, once honored and revered by all, Is slowly being jolted by the public for a fall.

The chiropsts and the healers are in a maddening race, To see which can be first to usurp the doctors' place.

Our legislative bodies to cult and quack give ear, While the good old fashioned medic is crowded to the rear.

What, with health board clinics in cities large and small, It's a wonder that the doctor has any work at all.

The women's clubs and uplift workers with good intent, no doubt, Are advocating health reforms which they know naught about.

And now the latest craze which enters in the chase, Is sponsored by our aid, the nurse, who would like to boss the case.

The welfare workers are increasing at a most alarming rate, Taxes mounting higher, while we pay out the freight.

We have within our midst a self-appointed crew Whose every aim and object is to tell us what to do.

Who are these parasites that are spending all our wealth? Who pose before the public as the guardians of our health?

They train the babes and mothers, preach compensation and the like, But are plugging for state medicine with all their main and might.

Their chief interest is their salary which amounts to quite a chunk, While their talk of help the doctor, is nothing but mere bunk.

After listening quite patiently to their bolsheviki stuff, I think the time is here when we ought to treat 'em rough.

We know this gang's deceptive for they both lie and cheat,

They're something like our cascadeets, they work while we're asleep.

One of the many things which with their scheme is harmonized

Is to see in future a profession socialized.

It's time that we, as medics, when dealing with such rakes

Began to think quite seriously of putting on the brakes.

The sooner that we realize there's a good stiff fight on hand,

The faster we will organize throughout this busy land.

We've got to show this outfit we're wised up to their game.

That when it comes to battling we possess a mighty name.

If in the mud we let them tramp us or crowd us in the ruts,

We lack intestinal investature, or in plain English, "guts".

Let's have a little action with a little less to say, A hundred promises tomorrow isn't worth one punch today.

Then when this gang gets busy and tries to slip one over,

We'll grab a club and a la Ruth just swat them for a homer.

It's quite a job, I know, but we'll get our recompense

If we only work together and use a little sense.

—W. P. W.

Note: Not for it's poetical beauty, but rather for the thought inherent do we give space to the above. Just ponder on the thought.—Editor.

During the past month we have addressed letters to a number of our members pointing out the desirability of inserting their professional cards in our Professional Announcement Section. We added that this income was necessary to enable us to send them a larger Journal with a greater variety of articles. We received two lone replies. Yes, this issue is smaller in size than former ones. It is smaller than we desired. We are unable to make it otherwise. We have just so much money to spend on each issue. During the past three months we have exceeded that amount. Unless we receive an increased earning revenue we have but one alternative, and that is to retract and make up on subsequent issues by reducing their size. This can be

obviated if some of our members, who can afford to do so, would come to the Journal's aid and increase its revenue by authorizing the insertion of their cards. This is not wholly a donation, because there accrue some returns to him who contributes this support. Will you be one of a hundred members who will proffer this aid? If we can secure an additional 100 announcements to those already carried we can send you a Journal such as Michigan should have.

On two occasions we have been told that the opinions reflected in a former issue in regard to the rapid increase of government and state employees and that we were rapidly setting up a system of bureaucratic control, were not consistent and were far fetched. We still insist that that danger threatens unless the profession asserts itself and emphatically protests the expansion of plans that are now being instituted. We are not alone in that opinion. That the danger exists is well set forth in an editorial in the Journal of the Indiana State Medical Society, from which we quote the following paragraph:

"And while we are on this subject we might mention the rapid increase in the number of employees in the public health service. Here again we have a political organization which puts forth every activity toward an increase in its functions and an increase in its pay. One of the most potent influences tending toward the socializing of medicine is the public health service, and unless something is done to stem the tide, the medical profession as a profession will be subservient to public health officials, and every aspect of the practice of medicine will be under bureaucratic control. Concerning this matter one ex-congressman has said, 'Let the proportion of public employees continue to increase as rapidly as they have in late years and we will within a reasonable time witness this phenomenon: Our population divided into two classes, those holding public office, still a minority, it is true, and all others working to support the minority in office. From that condition to the soviet form of government is but a single step.'"

During the months of October, November and December, 1922, and January, 1923, the Detroit Department of Health took samples of water from the 17 swimming pools of Detroit. These were taken eight to twelve times a month and analyzed in the laboratory. At each visit, the inspector offered suggestions, when necessary, to the attendant of the pool. The rules compel each person using the swimming pools to take a warm soap shower, without suit, before entering the pool. No person with a head cold or other communicable condition is admitted. Seven of the seventeen pools have a sand filtration and ultra-violet ray disinfection. Five have a sand filtration alone. One has a sand filtration with chlorine. Of the other four, three are emptied daily and one twice weekly (all cleaned ever Saturday). The relative standing of the seventeen pools is determined by averaging the relative position of each in two measures (total bacterial count and colon count). The Detroit Athletic Club pool has the best record with 22 bacteria per c.c. and 0.9 colon per 100 c.c. This is one of the sand filtration and ultra-violet ray disinfection pools. The pools without any filtration or disinfection, which are emptied daily or twice weekly, stand ninth, twelfth, fifteenth and seventeenth.

We congratulate the profession of Texas and the Texas State Medical Association upon having successfully waged a legislative program that achieved the enactment of a medical law that is a safeguard to the people of Texas and which enables

the authorities to deal with violators through an injunction proceeding. The law provides and requires that every individual who represents himself as capable of treating people and who engages in actual practice shall be possessed of definite qualifications as to education and training. The only exception made is to Christian Scientists, provided they do not charge for their services. When these qualifications are met the state does not concern itself as to what curative measures are employed. Such provisions, we believe, are just and timely. Would that we had such a law in Michigan. Action should be undertaken to secure such a law from our next legislature. The result in Texas was obtained by the co-operative effort of the State Medical Association.

Dr. Reeder very pertinently discusses some of our medical problems which are of concern today. We recognize that they exist. However, our greatest concern is in regard to what are you, doctor, going to do about them. Are you going to quietly pursue your old course? Or, are you sufficiently concerned so that you are willing to give a day of your time each month to further effective activity to combat these conditions? Your county president, secretary and two or three members are not going to fight your battles alone. It is incumbent upon you to enlist for active service. We can talk and talk about these evils but talk alone never achieved very much. Every county and every member of every county society must subscribe individual and combined effort. Until that activity occurs you can confidently expect that matters will continue as they are at present.

That 26 state licensing boards were represented and took an active part in the discussions of the Congress on Medical Education (held in Chicago, March 5, 6, 7, 1923), indicates that the Federation of State Medical Boards is fulfilling its purpose in uniting the interests of the different state boards in a common purpose of improving medical practice. It is clearly evident that these boards are vitally concerned in the co-ordination of courses in the medical curriculum, the harmonizing of licensure requirements with present-day medical education, the regulation of the intern year, the betterment of hospital service, and the need of the organization of hospitals for co-operation with the medical profession.

The correspondence column in this issue contains some interesting communications. Please remember that these pages are the open forum of the society. Members are urged to voice their opinions and recommendations. We especially desire you to participate in the discussion of the problems that confront the profession. May we have more communications from all over the state. There is only one limitation and that is that we will not publish personal attacks or abuse. We are concerned only with principles and policies. May we have your comments?

Every month we receive during the last 10 days of the month, items and news notes for publication. As the forms of the Journal are closed on the 20th of each month, these items must hold over and this frequently causes them to become valueless. We urge therefore that such items be sent to reach us by the 20th of the month.

Section officers and members are advised that the completed Section Scientific program must be in our hands by July 10th. Members desiring to present papers before the various sections should correspond direct with the section secretary.

Correspondence

Bay City, Mich., April 10, 1923.

To the Editor:

I have read the articles both pro and con on the Sheppard-Towner law and its effect, published in the two last Michigan State Medical Journals.

Also two weeks ago, at an open meeting, when the doctors' wives were invited to a banquet by the Bay County Medical society, the program committee asked a veterinary from an adjoining town to address them. He took this occasion to speak against the Sheppard-Towner law. Some of his objections you will read in the article that I am sending you, asking you to publish in the next issue.

This is adding insult to injury to the women and infants who need this education and protection in maternity and infancy welfare.

It is more than I can imagine why the physicians, of all people, can make this opposition to this law of humanity and which protects women and infants.

A few city doctors are specialists in ophthalmology and do not come in contact with maternity and infancy, and do not know or realize the need of this education in rural districts.

To say the least, I am asking a little of your space in the Journal and will appreciate it if it is granted.

I am very truly yours,
Mary A. W. Williams, M. D.
* * * *

The Editor of the Journal of the Michigan State Medical Society:

As the medical profession are so near-sighted in the benefits of the Sheppard-Towner law that they can only see the mercenary view, how it will effect their practice, etc., how it will raise their taxes, how it will not reach those who need it, as you heard our good friend, the veterinary surgeon, disclaim, who spoke to us a couple of weeks ago.

They lose sight of the humane side of the question. As not many of the medical profession have defended the women and children in maternity and infancy, I wish to say a few things:

Every article I read against the law fills me with indignation if it is written by a physician. That a physician, who of all men have a chance to know the perils of maternity, the suffering and agony that a woman goes through to bring a child into the world.

Every protection in every way should be granted them; they need this method of education.

The origin of this law was by a woman, true, as our friend, the veterinary, said the law was drawn up by a lawyer. I cannot see why that is anything against the merits of the law.

The law was sponsored by more than a million women of the United States. This bill was introduced into congress in July 1918, and passed in 1920, after the franchise was given to women. This was once when votes counted. Congressmen said it would never pass, but it did.

A few legislatures accepted the law before it was passed. After it was passed 30 governors promptly accepted the law, pending favorable action at this year's session of the legislature.

So far Michigan legislators seem to be in favor of appropriating the few thousand dollars to continue the educating of the mothers and expectant mothers in the care of themselves and infants.

What happened in Massachusetts—one of the richest states in the union did not accept the law. The attorney general of Massachusetts got permission of the state legislature to apply to the supreme court of the United States for an injunction forbidding the expenditure of the money appropriated by

congress and the states for the welfare of maternity and infancy.

What happened to him? When he sought the nomination for governor in the primary, the women of Massachusetts defeated him. This injunction is not liable to be granted by the United States supreme court.

Women and children first, is the law of the sea. Some of the doctors of the medical profession of Michigan would reverse this law, women and children last.

Our friend, the veterinary, says that the women who need this help will not receive it, because the women will not go and receive this instruction, that they will be at home taking care of their families. This is a silly argument. Women in maternity are always eager to learn what to expect in their condition. Why wouldn't they feel free to ask another woman, who has had experience in the practice of obstetrics. The women physicians of the Bureau of Child Hygiene of Michigan, who are putting this law into effect, only began organizing the classes in health centers less than nine months ago.

Dr. Blanche Haines, the commissioner of the Bureau of Child Hygiene of the State Board of Health, is a woman of experience and knowledge of maternity and infant mortality through her state work in the Maccabees, as are Doctors Elliott and Florence Brown, her assistants. The latter, whom we all know, was born in Bay City, graduated in our high school, went to Vassar College, graduated, then graduated at Johns Hopkins Medical College, put in one or two years as interne there.

These women are educated in this line. They are graduates of medical colleges of the highest standing. They are intelligent women and capable of imparting the kind of knowledge that women need. There is great need of education along this line. Every doctor knows the need of this.

The appropriation by congress is for five years' duration. During that time the women can be educated in maternity and infancy welfare. This is needed and will lower mortality of women and infants.

Dr. Haines told me that she and her assistants are very careful not to prescribe, but to refer these women to their family physician. This work will in no way interfere with the doctors. The better educated a woman is, the better informed a patient is, the easier it is and the less anxiety the doctor has.

Michigan owes as much protection to the mothers and children as it does to the cattle, pigs and sheep. We all know the laws that are in force in this state to protect them.

It is a pity that the Lord Almighty did not make the men bear their share of bringing the children into the world. Many women not only bear them, but have to support them after going through nine months of suffering, as many do.

It is very nervy for any man to object to the Sheppard-Towner law. While their wife and daughter may not need the help that this law gives to women and children, there are thousands who need it.

There are many women who cannot have the services of a physician in the state of Michigan. Why are some so narrow and short-sighted as to begrudge any poor, helpless human being the aid that this law can and will give them.

Humanity first, the pocketbook last.

Congress appropriated \$1,000,000 for five years, to be divided between the states accepting it, each state to appropriate as much as they receive from the federal government, each state also to receive \$5,000 from the government, to accept this appropriation.

Our Governor Groesbeck was in a position to accept this appropriation as it happened that Michi-

gan had enough that had been appropriated for child welfare. This is the way it was financed last year, much to the satisfaction of the women of Michigan.

This year the legislature is asked to appropriate \$29,471.11. This will duplicate what the federal government gives to Michigan to carry on this work.

The few pennies that will raise any person's taxes could be saved in many ways that I could mention.

The need for the work cannot be questioned. This country in 1920 had a higher mortality in maternal death rate than any other record-keeping nation. Tuberculosis causes the greatest number of deaths among women from 15 to 44 years of age. The second highest cause of death is child bearing. Approximately one woman in every fifteen dies in child-birth.

In 1921, of every 1,000 babies born alive in the United States, 76 died under one year of age. In Michigan the rate was 79.

That same year 8,293 babies were born in Michigan without medical care of the mother either before or during child-birth. There is no doubt but that Michigan needs child hygiene work.

What can be done to lower maternal and infant death rate? Take New Zealand, for example. During the years from 1872 to 1919 their infant death rate was reduced from 105.9 to 45.3. This enormous decrease was the result of practically the same educational and protective measures now being put in force in Michigan by the Michigan department of health. Briefly these measures are:

1. Education of mothers in care of themselves and infants.
2. Breast feeding, or at least, better feeding of infants.
3. Education of nurses in infant and maternal work.
4. Complete birth and death registration.
5. Safer milk supplies and combatting diarrhoeal and contagious diseases.

Protecting of the life of its citizens is the primary function of the state and the child is the future citizen. The Sheppard-Towner law, because it helps to provide this protection, should remain active in Michigan.

Mary A. W. Williams, M. D.
808 Jefferson Street.

Bay City, Michigan.

The Editor of the Journal of the Michigan State Medical Society:

Enclosed please find copy of an editorial from the California State Medical Journal which, if possible, I wish you would reprint for the benefit of those in our state society who feel that the end (whatever that end may be no man sayeth) justifies the means employed. California has been the battle ground for the socialization of medicine and when her physicians speak it is with full knowledge of what war means.

Very truly yours,
George E. Frothingham,
Chairman Committee on Civic
and Industrial Relations

* * * *

CALIFORNIA AND THE SHEPPARD-TOWNER LAW

In order that the attitude of the physicians of California toward the Sheppard-Towner law may be made clear, the following brief resume and analysis of that law has been carefully considered by the Council of the State Medical Society, unanimously approved and ordered published as an editorial in the February number of the Journal.

The Sheppard-Towner law has had more discus-

sion and more has been written about it during the last year than almost any other subject before the people of our country, except the Volstead act. The literature about it is of all classes, from many sources, and considers the law from many angles. The unusual interest manifested in this law is because it happened to be the arrow that focused the attention of all people upon certain tendencies affecting the fundamentals of our government.

Opponents of the measure consider it to be paternalistic, bureaucratic, socialistic and political in its purposes and methods of operation, to an extent not yet attempted by any other legislation in our national government. They consider that it gives a bureau of the labor department at Washington authority to use the federal taxes in an unequal and unfair manner; that it is class legislation and invades "states' rights" and interferes not only with the responsibilities and duties of the state government itself as provided in the Constitution, but that it adds another link in the chain of influences tending toward socialization of the home.

Proponents of the law deny some or all of these and numerous other accusations that are made against it. Practically all of the proponents consider accusations of whatever character made against the bill as of minor importance compared to the benefits they claim to believe the law provides in reducing mortality and morbidity incident to childbirth. It is a merry controversy, and we are not likely to see the end of it for some years to come.

The provisions of the law has been refused by several states. Others, including California, must consider it during the present session of the legislature. A considerable number of states have complied with the provisions of the law. New York rejected the law and forestalled possible criticism, based upon a sentimental appeal of "save the mothers and babies," which every one recognizes, by passing a state law giving the state board of health funds and authority to investigate and relieve, as far as possible, the hazards of childbirth among all classes of people, who are unable to secure these services on their own responsibility. Massachusetts rejected the law and has entered suit to test its constitutionality in the Supreme Court of the United States.

The governor of California has recommended its acceptance, and the final position of this state must be determined by Governor Richardson and the legislature now in session.

* * * *

POSITION OF THE MEDICAL PROFESSION

The paternalistic, bureaucratic and socialistic features of this bill overshadow its medical and public health features in much of the literature and many of the discussions. Nevertheless, it has features vitally interesting to physicians, and the physicians of the country and in congress early called attention to the dangers of the law. The position of the medical profession has been that of opposition from the introduction of the bill to the present. This opposition has been consistent and more nearly unanimous among the physicians of the entire United States than on any other question of which we have through its house of delegates, condemned the law records. The American Medical Association, acting in a resolution, reading as follows:

"Whereas, The Sheppard-Towner law is a product of political expediency and is not in the interest of the public welfare; and

"Whereas, The Sheppard-Towner law is an imported socialistic scheme unsuited to our form of government; and

"Whereas, The Sheppard-Towner law unjustly taxes the people of some of the states for the bene-

fit of the people of other states for purposes which are unlawful charges only upon the people of the said other states; and

"Whereas, The Sheppard-Towner law does not become operative in the various states until the states themselves have passed enabling legislation, Therefore, be it

"Resolved, That the American Medical Association disapprove the Sheppard-Towner law as a type of undesirable legislation which should be discouraged."—(Abstract from the minutes of the seventy-third annual session of the A. M. A.)

Many other organizations of physicians have condemned it and, so far as we know, none has endorsed it. The California Medical Association, through its house of delegates and council has condemned it on several occasions. The council in a resolution passed over a year ago instructed the editor of the Journal to be diligent in furnishing information regarding this measure and condemning its application in California. This resolution was the council's answer to threatening letters to the editor telling the medical profession what would happen to their pocketbooks if they continued their opposition to this measure.

* * * *

DANGERS OF SOCIALIZING MEDICINE

So far as the officers and representatives of the State Medical Society located in all parts of the state can find out, the only physicians who are in favor of this law are those few who favored the attempt to foist compulsory health insurance upon the people of California and who are in favor of other forms of state medicine and the socialization of medicine and public health. A few physicians emphasize the fact in personal conversation that they are opposed to the measure, but frankly admit that on account of the threatened dangers to their practice they prefer to take no open stand. Physicians who favor state medicine or the socialization of medicine are usually also in accord with the same socialistic features of this law that appeal to the non-medical man.

The Sheppard-Towner law is not only an extreme example of what those favoring "state medicine" would like to have done, but it is one that puts the control of a medical question into the hands of a federal bureau at Washington. So long as the physicians and other health officers of California comply with the rules of a bureau of the department of labor at Washington, they may have a certain amount of the taxes they have paid to the federal government back, provided further, that they will tax themselves for an extra dollar for each dollar of their former federal taxes that the labor department hands back to them.

* * * *

WHERE THE PROFESSION STANDS

Every physician, as well as every other worthwhile citizen is earnestly interested and active in doing everything possible in a practical manner to reduce the hazards of childbirth and increase the happiness and health of mothers and infants, as well as of all other citizens. A recent survey shows that the physicians of California give an average of one-third of their time to service for which no fee is charged. Preliminary records from a further survey also indicate that physicians do not refuse their service in childbirth regardless of the patient's ability to pay, nor do they refuse their services during the period of gestation and the necessary period after birth.

In a recent resolution, the State Medical Society has gone on record as stating that every physician's office in California is a medical center to which any and all people may go and receive service, upon the condition that those who cannot pay or who can

pay part will receive the same consideration as those who can pay. Physicians are ready and willing to increase the amount of free work, and they are willing to help both with services and taxes our own state and county health authorities extend help wherever it is needed to those who are unable to pay for it themselves. However, they do not extend this offer to the department of labor in Washington with a special organization of lay people who already, in some instances, are busy undermining physicians among their own clients in this and other states.

Governor Richardson and the legislature are charged with the responsibility of accepting or rejecting the provisions of the Sheppard-Towner law and with the still greater responsibility of making an entirely new appropriation from the state treasury as called for by the law, which is to be expended in a free medical service to all people, regardless of social or financial standing. There unquestionably will be powerful pressure brought to bear to force favorable action on this law. There will be no organized opposition so far as we are informed. The medical profession goes on record with the protest here expressed as being unalterably opposed to the bill, for the reasons herein set forth in addition to others that readily occur to every person. They go on record at the same time with the statement that they are willing, as they always have been, to do everything possible in the way of service or financial assistance to decrease the hazards of childbirth among those people who are unable to bear the normal expenses for good medical care by any means provided and controlled by our own state and with no control by a political body in Washington.

Copies of this editorial will be transmitted to the governor of California and to every member of the legislature and to the editors of newspapers throughout the state.—California State Medical Journal.

The Editor of the Journal of the Michigan State Medical Society:

I wish to take exception to the insinuation made by Dr. Frothingham in the April number of the Journal of the Michigan State Medical Society that statistics quoted in my letter in the same Journal were untruthful. I hope that the Doctor will recall his undignified quotation about liars, take up his pencil and figure how he can change any quotation of one death in 150 to be six in 950 when he quotes my letter. I object to the manner of the reply to my letter which is more that of a newspaper hack than that of a representative of the State Medical Society.

The statistics to which Dr. Frothingham objects are those given by the Department of Health of the State of Michigan, and the Census Bureau of the United States Department of Commerce. I believe that most of us accept the statistics of these departments as correct without a question. If the Doctor wishes to quarrel about the veracity of the figures quoted he may take up the subject with the above mentioned departments and see that they are corrected to suit his opinion.

The reply of Dr. Frothingham to my letter asks "What proportion of mothers died for lack of education in pre-natal care." Education through the pre-natal clinics in the Department of Health of Detroit has reduced maternal deaths 50 per cent as compared with the average for the city for the year 1922. The following questions are irrelevant to the subject when it is shown that proper care can reduce maternal mortality by half. Another question asked, "How many mothers died from physical malformations?" is so vague as to be meaningless. These questions are merely a smoke screen to hide

the fact that maternal mortality is high as the result of childbirth. If statistics on maternal mortality are of questionable value as the doctor states, it is in the understating the maternal death rate. In the past Puerperal Sepsis has been hidden by diagnosis of Scarlatina for streptococcus puerperal infection and typhoid for slower infections. But statistics have never over stated the maternal death rate due to child birth.

No one has asked to have the rights of the State of Michigan scrapped as stated by Dr. Frothingham. The state through its legislative branch has approved the enactment of the Sheppard-Towner act by appropriating money for the enforcement of the act. The act is now being carried out by the Department of Health of the State of Michigan under the supervision of well qualified registered physicians of the state.

If the Doctor will reread my letter he will note that I did not state that I favor the Sheppard-Towner act because it will put money in the hands of the physician. If he took the trouble to find out he would know that those doing prenatal work are not so mercenary as he believes, in fact that some are working gratis.

The logic used by Dr. Frothingham is on a par with his arithmetac—bad. After questioning the necessity of prenatal work and criticising the effort to bring this care to the expectant mother in this state, he naively suggests that the same work be carried out by another state department.

It is regrettable that subjects of mutual concern to the public and the medical profession should be handled as they have been by the medical fraternity. The opposition of the medical profession, or its representatives, to acts considered as beneficial by the public can only react against our profession. We must show a better spirit of co-operation with the public in health problems or lose the esteem which the public has held toward the medical fraternity in the past. Do we need a change in policy or new leaders?

Walter E. Welz.

Editor's Comment—We have never been able to accept the reduction of any morbidity or mortality rates as being the result of the sole activity of a health clinic, health organization or health official. We recognize that their activity may have been an important factor, but not the only factor. Credit must be also given to improved practice on the part of the doctors, better water and milk, improved sanitation by reason of more sewer connections and garbage disposal, etc. In this instance the reported reduction of maternal deaths in Detroit is not solely due to the pre-natal clinics in Detroit. Credit must also be given to the fact that more mothers are being confined in the maternity departments of Detroit Hospitals and so they are receiving better obstetrical care. Detroit doctors are also rendering obstetrical care that measures up to the refinements of modern obstetrics. So we say that the 50 per cent reduction in maternal deaths in Detroit cannot be rightly credited as being entirely due to the educational work of Detroit's Prenatal Clinic. Neither can reduced infant mortality be ascribed as being the result of the work of any infant clinic.

The Editor of the Journal of the Michigan State Medical Society:

I am very glad to see you are alive to the menace of the various health board, hospital and industrial associations in their attempts to "socialize medicine" and incidentally reduce American doctors to the status of German, Austrian and British in their economic relation.

Here in Michigan there has not been (and is not now) any acute poverty problem, such as obtains in Chicago, New York, Philadelphia, Boston, Baltimore and elsewhere in the east.

Everyone recognized the slump at the end of 1920, when most of the workers and small tradespeople were without employment or revenue for from four to eight months, and that it is going to take a long time for these people to get square—but that condition is happily at an end—for with over 300,000 men and women employed at full time here in the industrial plants, to say nothing of those in building and other trades at from \$5 to \$10 per day, the need for doctors giving free medical care does no longer exist. Yet the many clinics of the hospitals and health boards, school boards, etc., not only continue to treat great numbers of otherwise self-respecting and self-sustaining people free, but show every tendency to expand their endeavors. We cannot help feeling that those in control are doing this largely to make their own selves secure and indispensable and all at the expense of the doctor.

This is not a bad dream, but is waking fact and big menace.

Various cities have organized the profession to fight this evil, notably Buffalo—with Doctors Gardner, Pryor and Parke Lewis at their heads—men whose reputation carries them beyond any criticism of narrow minded selfishness. Here in Detroit, some members of the public health committee have been gathering material to lay before the Wayne County Medical Society in order to see what can be done to avert this tragedy.

I trust you will go on with this campaign and that the profession of the state will awaken to the danger that besets them.

Very truly yours,

Edward J. Bernstein.

The Editor of the Journal of the Michigan State Medical Society:

After further consideration the Wayne County Medical Society has arranged for its Health Exposition to be held at the General Motors building from June 7th to 17th inclusive.

With the co-operation of all the important health, education and welfare organizations of the State of Michigan, this should be the largest and most successful health exposition ever held in America. Its educational possibilities are unlimited, and it is hoped that we may have your full and enthusiastic co-operation.

We, the Wayne County Medical Society, are employing in the development of this educational project the personnel from the National Health Exposition Association, namely, Mr. John McKeown as our General Manager and Mrs. Jane Teare Dahlman as Educational Director. Their offices will be with the Wayne County Medical Society at 65 E. High Street (temporary telephone number, Main 3778). May I suggest that you get in touch with either Mr. McKeown or Mrs. Dahlman at as early a date as possible for the purpose of furthering and developing your own plans in this community co-operative educational project?

For the Public Health Committee of the Wayne County Medical Society, permit me to express my appreciation for the consideration you have already given this enterprise.

Yours very truly,

R. A. C. Wollenberg, Chairman.

Public Health Committee,
Wayne County Medical Society.

The Editor of the Journal of the Michigan State Medical Society:

I wish you to please cancel my subscription to the

Journal, as I am out of Michigan indefinitely, and have been away all the year thus far. I should have given you notice before, but my plans have been uncertain.

I am doing special work here in the Sanitarium, and may remain for sometime, or go farther east before returning to Kalamazoo, may possibly not go back to practice.

The course the Journal has taken with reference to the Sheppard-Towner bill has met my hearty approval, as well as the U. of M. matter and the "Super Nursing."

It seems to me that there is to be a struggle concerning State Medicine, though Health Insurance is downed; but my days of contention are passed, having used up my strength opposing Christian Science some years ago.

Hoping for success to attend your efforts for rational conditions for the practice of medicine.

Faternally and sincerely,

Della P. Pierce, M. D.

P. S.—I should state more definitely, my former address was Kalamazoo, Michigan, and had been for 30 years.

The Editor of the Journal of the Michigan State Medical Society:

We wrote you on January 12, and received your reply bearing date of January 16, relative to your being able to furnish us with names of physicians desiring to locate in a small town.

We are still dependent on a neighboring town for a doctor, and wish that you would keep us in mind, as we will greatly appreciate anything that you can do for us.

Yours very truly,

Wallace F. Henry,
Mecosta, Mich.

The Editor of the Journal of the Michigan State Medical Society:

Your communication relative to House Bill No. 77 was received and acted upon by our society at its regular monthly meeting, Monday night.

We are showering our representatives and senator from this district with letters and telegrams as we did two years ago for the same purpose. We trust that we will have the same result as we did two years ago.

Anything further that we can do to assist in this, or in any other matter pertaining to the medical fraternity, kindly advise.

Very truly yours,

HOUGHTON COUNTY MEDICAL SOCIETY.

A. D. Aldrich, President.

Deaths

William Richardson, M. D., (University of Michigan, 1871) Carson City, Michigan. Died March 18, 1923; aged 78.

Dr. Richardson possessed to a very large degree the attributes of what is now known as "the family physician," who is rapidly becoming extinct, missed and regretted by every one. The typical family doctor not only possessed ability, but, in addition, was distinctly human. He was not only honest with his patients, but honest with himself in all things, self-sacrificing, giving the best that he had constantly, without stint, to his patients and to all men. Such a physician was Dr. Richardson and to be his friend was not only an honor, but a privilege and an asset. The world is better for his having lived and his going from it has created a vacancy which cannot be filled.

Dr. Justin E. Emerson was born in Waialua, Hawaii, in 1841 and died at Clifton Springs Sanitarium, New York, April 8, 1923. He gained a nationwide reputation as a neurologist and served in that capacity at Harper Hospital and the Children's Free Hospital.

State News Notes

COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

WANTED

A good Doctor for a village of about 350 population with good surrounding territory. A hustler can run around \$4500 or \$5000 per year. For further particulars enquire of Lum Exchange Bank, Lum, Michigan.

FOR SALE—Large solid oak double roll, professional desk. Price less than one-half original cost. F. B. Miner, M. D., 1010 Genesee Bank Bldg., Flint, Mich.

FOR SALE—Practice in Michigan town of 2,500, fifty miles from Detroit; all improved roads, rich farming section. Large territory. Collections good. Practice good for from \$6,000 to \$10,000 per year. Nine-room house, practically new full basement, steam heated, electric lights, hard and soft water plumbing. Large lot, fine two car garage. Will sell home and equipment for \$7,000. Will give practice gratis. Will introduce, if desired.

Address Practice, Care Journal.

The joint committee on Public Health Education held its regular meeting in Detroit April 17.

Butterworth hospital, Grand Rapids, is adopting a plan for a new staff organization.

Dr. Barrett of Ann Arbor addressed the Grand Rapids Rotary Club on April 12.

The Genesee County Medical Society is sending "Hygeia" to each school in Genesee County.

Dr. Udo J. Wile of Ann Arbor, spoke before the Detroit Otolaryngological Society, March 28, 1923.

Dr. J. T. Cramer of Muskegon attended the clinics at Ann Arbor, March 15.

The Rockefeller Foundation has given \$22,500 to the Child Welfare Station of the University of Iowa.

Dr. Angus McLean was elected a member of the Detroit board of education April 3, 1923.

Dr. C. E. Stewart of Battle Creek attended the meeting of the American College of Physicians, held in Philadelphia.

Thus far some 180 public lectures have been delivered this year under the auspices of the joint committee on Public Education.

Dr. and Mrs. F. B. Walker returned to Detroit the first part of April from a two months' stay in Florida.

Dr. George C. Chene of Detroit and Dr. Charles

H. Oakman of Detroit spent a few weeks this spring in Miami, Florida.

Dr. Samuel Bell, who spent the past winter in California, returned to Detroit the first part of April.

The twenty-fourth annual meeting of the American Proctologic Society will be held in Los Angeles, June 22, 1923.

Thirty-seven medical articles were published by the members of the staff of Harper hospital (Detroit) during 1922.

Dr. Max Ballin is chairman of the executive committee of the medical board of Harper hospital for 1923.

Dr. J. R. Rogers and Dr. H. S. Collisi of Grand Rapids spent the last week in April at the Mayo clinic.

At the Journal goes to press the legislature is still in session and the fate of many bills is yet undetermined.

The thirty-fifth annual meeting of the American Pediatric Society will be held at French Lick Springs, May 31-June 2, 1923.

The next annual meeting of the American Bronchoscopic Society will be held in Atlantic City, May 9, 1923.

The annual meeting of the American Laryngological, Rhinological and Otological Society will be held in Atlantic City, May 10, 11 and 12, 1923.

The tuition fees of all students in the Johns Hopkins Medical School have been advanced to \$300, effective this year.

Doctors Paul Roth and Charles E. Roderick of Battle Creek, talked before the Columbus Academy of Medicine, February 26, 1923.

Dr. Duncan Campbell read a paper on "Otitis Externa" before the Detroit Ophthalmological Club, April 4, 1923.

According to Dr. Howard Fox, approximately fifty lepers can be found in New York City at any time.

Dr. S. A. Jackson of Muskegon has returned home from New Orleans, where he has been spending the winter.

Dr. and Mrs. V. S. Laurin of Muskegon were called to Richmond, Virginia, on account of the illness of Mrs. Laurin's sister.

Dr. C. Pangrel of Muskegon Heights addressed one of the Parent-Teacher Clubs of the Heights, explaining to them the Shepard-Towner bill.

Dr. C. B. Fleischman of Muskegon has just returned from Chicago, where he was taking up some post graduate work in that city.

Doctors B. R. Cosbus, A. J. Baker, M. W. Wells and J. Meengs of Grand Rapids, attended the Philadelphia meeting of the College of Physicians.

Doctors Eggelstine, Mortenson and Pritchard of

Battle Creek, attended the Philadelphia meeting of the College of Physicians.

Dr. W. J. Cassidy of Detroit read a paper on Gastric Ulcer before the staff of Butterworth hospital, Grand Rapids, at the regular clinical conference of the staff on April 20.

Dr. J. I. Cass of Battle Creek, returned April 15 from a trip to South America. He was a member of the party of the American College of Surgeons that sailed on Feb. 10.

Dr. Joseph Johns of Ionia received appointment for whole time surgical assistantship at Glasgow Royal Infirmary, (Scotland). Dr. Johns left Ionia April 10 and will return some time in September.

The engagement of Dr. Roger V. Walker, son of Dr. and Mrs. Frank B. Walker of Detroit, to Miss Helen F. Reade of Escanaba, was recently announced.

The Medical Section of the Wayne County Medical Society elected Dr. Robert C. Moehlig, chairman, and Dr. George P. MacNaughton, secretary, for the coming year, on April 9, 1923.

The Northern Tri-State Medical Association met in Cleveland, April 10, 11, 1923. This was its fiftieth anniversary. Dr. G. M. Livingston of Detroit was its president during the past year.

Dr. L. M. Warfield of Ann Arbor read a paper on "The Treatment of Chronic Nephritis for the General Practitioner" before the Northern Tri-State Medical Association, April 10, 1923.

Dr. Plinn Morse read a paper on "The Correlation of the Pathologic and Clinical Findings in Nephritis" before the Northern Tri-State Medical Association, April 11, 1923.

Harper hospital, Detroit, received in gifts \$489,955.78 during the year of 1922. Its proportion of charity is at the present time 10 per cent and its debt is \$40,600.

Work will be started at once on the \$300,000 Steiner Memorial Hospital, to be erected at Atlanta, Georgia. The hospital will be used for the free treatment of cancer.

Dr. C. C. Birkelo read a paper on "Disease of Bones and Joints from the Angle of the X-Ray" before the Highland Park Physicians' Club, March 1, 1923.

Dr. Walter E. Sistrunk of the Mayo Clinic, read a paper on "The Present Status of Neck Surgery" before the Wayne County Medical Society, March 26, 1923.

Last year the difference between the amount paid by students in the University of Pennsylvania and that expended by the University for education was \$814,250.

Dr. Victor C. Vaughan was presented the Medal of the Legion of Honor by the French government, March 28, 1923, for meritorious service in science and in the World War.

A bill was recently passed by the Oregon legislature and signed by the governor, appropriating \$200,000 for the next two years for maintenance of the University of Oregon Medical School.

Fractured legs seems to be the style among Grand Rapids doctors. On April 12, Dr. P. B. DePree sustained a Potts fracture. Dr. DePree, Dr. DeCoux and Dr. Rozema are all incapacitated by reason of fractures.

Dr. Max Ballin read a paper on "Diverticulitis of the Large Bowel" and Dr. A. F. Jennings reported the use of insulin in five cases of diabetes mellitus before the Detroit Academy of Medicine, April 10, 1923.

Professor Leon Asher of Berne, Switzerland, spoke before the Wayne County Medical Society, April 9, 1923, on "Physiology of the Spleen and Its Relation to Bone Marrow and the Liver," and on April 10, 1923, on the "Physiology of the Kidney."

Get out the old driver, mashie, niblick and putter. Get out on the links and chase the pill into the rough. Having thus obtained your 1923 inoculation write for a reservation on the Golf Special train for the 'Frisco meeting of the A. M. A.

Dr. William Engelbach of St. Louis, read a paper on "The Results of Treatment of Ductless Gland Disorders" before the Wayne County Medical Society, April 2, 1923. The paper was illustrated with lantern slides.

The medical library of Sir Norman Walker of Edinburgh, Scotland, has been accepted by the University of Iowa College of Medicine. This gift was obtained through Dr. Walter L. Bierring of Des Moines.

Dr. A. P. Biddle read a paper on "Public Education in the American Metropolitan Centre" before the Detroit Academy of Medicine, March 27, 1923. The paper was well illustrated with stereopticon slides and moving pictures.

Mr. William Bingham of Cleveland recently gave the Cardiographic Laboratory of the Johns Hopkins Medical School \$5,000 and the Interdepartmental Social Hygiene Board also gave the Department of Syphilis \$9,000.

Doctors B. D. Harison, W. H. McCracken, Henry Vaughan and Guy Connor of Detroit, and Doctors Cabot and Parnall of Ann Arbor, and Clyde Slemmons of Grand Rapids, attended the annual meeting of the Congress on Medical Education, held in Chicago, March 5, 6, 7, 1923.

The 107th Medical Regiment of the Michigan National Guard, Red Arrow division, has been completed by the federalization of Hospital Company 119. The camp at Grayling will be held in August, while there will be a special encampment of the officers for several days in June.

The College of Physicians and Surgeons of Columbia University has received \$5,000 from Mr. W. P. Watson for a permanent fund. The annual income of this fund will be given to the member of the graduating class doing the most valuable work in diseases of infants and children during the regular course at the college.

The Samaritan Hospital, Detroit, passed into the hands of the Sisters of Mercy, March 29, 1923. It will be immediately enlarged by extending the present building and by adding two stories. A new operating pavilion, full-time X-ray and pathological laboratories, and other departments and equipment will be installed. It is announced that no change

will be made in the personnel of the staff at present.

On April 2 a telegram was received from Los Angeles announcing the marriage of Dr. D. Emmett Welsh and Mrs. Fannie M. Koon, both of Grand Rapids. Dr. Welsh and his bride returned to Grand Rapids on April 7, and was welcomed in his home by a host of his medical and lay friends. The Journal tenders congratulations and best wishes.

Dr. Ray Connor (Detroit) and Dr. Wallace F. MacNaughton (Detroit) were elected to the board of managers of the Michigan Society of the Sons of the American Revolution at its annual meeting, held in Detroit, April 16, 1923. Dr. Stephen H. Knight (Detroit) was elected, at the same meeting, one of the delegates to the Congress of the National Society.

At the last annual meeting of the American Conference on Hospital Service, the following officers were elected: President, Dr. Frank Billings; vice presidents, Doctors A. R. Warner and L. R. Williams; treasurer, Dr. H. E. Mock; board of trustees, Dr. F. C. Zapffe, Dr. L. R. Williams and Miss S. B. Place.

The following Detroit physicians attended the meeting of the American College of Physicians, held in Philadelphia the first week in April: Doctors C. D. Aaron, F. G. Buesser, H. R. Carstens, James Cleland, A. S. DeWitt, H. B. Garner, J. G. Harvey, H. M. Rich, E. H. Siehler, F. T. Stephenson and L. F. Wendt.

The funeral services for Dr. Joseph A. Belanger, who died in Paris, January 12, 1923, were held in Grosse Pointe Farms, March 15, 1923. Among the honorary pallbearers were Doctors L. E. Maire, Philip Loranger, H. Kreit, Angus McLean, L. W. Knapp, C. G. Jennings, C. D. Aaron, Max Ballin, E. W. Haass, Frank Ware, W. A. Donald, William Cassidy and Frank Kelly.

At the thirty-third annual meeting of the Association of American Medical Colleges, held in Ann Arbor March 2, 3, 1923, the following officers were elected: President, Dr. I. S. Cutter of Omaha; vice president, Dr. R. L. Wilbur of San Francisco; secretary, Dr. F. C. Zapffe of Chicago; executive council, Doctors N. C. Allison of St. Louis, and W. L. Niles of New York.

Dr. Paul G. Woolley, formerly director of the Detroit office of the National Pathological Laboratories, has joined the staff of the Detroit Clinical Laboratory. He will devote his entire time to the practice of clinical pathology as applied in laboratory diagnosis. Dr. Harry L. Clark has taken Dr. Woolley's place as director of the National Pathological Laboratories in Detroit.

The first number of the Journal of Technical Methods has recently been issued by the International Association of Medical Museums. It is a memorial number to Sir William Osler. It also contains articles on histologic technic used in pathology and on preserving fluids for gross pathologic specimens and a discussion on photographic photomicrography.

The mortality from acute contagious diseases in Detroit during 1922 showed a decrease. A marked drop in the diphtheria death rate is coincident with the freer use of antitoxin. During 1922 there were 6,461 cases reported of measles, (1,485 for 1921). Tuberculosis, (all forms) showed an increase during

1922. There were 2,475 cases reported (2,255 for 1921). Small pox showed the greatest decrease in the communicable disease group for 1922 with 85 cases (846 for 1921) with no deaths.

From July 1 to October 1, 1923, properly qualified graduates in medicine and surgery are invited to participate in medical and surgical work (including specialties), in capacity of special workers at Stanford University Medical School. These workers will assist in diagnosis and treatment of diseases in the outpatient departments, laboratories and wards. The minimum period of attendance will be four weeks and a registration fee of \$3 will be charged.

The supreme court of Ohio (January 16, 1923), in a unanimous opinion (in the case of Lewis M. Copeland, chiropractor), held that the mere filing of an affidavit by an applicant for a certificate, stating he is entitled to it, is not sufficient. The board has a right to inquire into the alleged facts set forth in the affidavit (which it did in Copeland's case) and to refuse a license. The supreme court denied Copeland's application for a writ of mandamus to compel the board to issue him a certificate.

The American College of Physicians held its annual meeting at Philadelphia April 2-7. The following officers were elected: President, Dr. Harlow Brooks of New York; secretary general, Dr. Frank Smithies of Chicago; treasurer, Dr. Clement R. Jones, Pittsburgh; member of the board of governors for the state of Michigan, Dr. Guy Connor. Under the constitution all applications for membership must be endorsed by three Fellows of the College, one of whom shall be a member of the board of governors.

The American Congress on Internal Medicine held its annual clinical week in Philadelphia April 2-7. The following officers were elected: Dr. Ellsworth Smith, St. Louis, president; Dr. C. G. J. Beardsley, Philadelphia, first vice president; Dr. William Macarty, Rochester, Minn., second vice president; Dr. Frank Smithies, Chicago, secretary-general; Dr. Clement R. Jones, Pittsburgh, treasurer. Dr. Bruce C. Lockwood, Detroit, director. The next annual clinic will take place in St. Louis.

The death rate in Detroit for 1922 was 11.6 per 1,000 (11 for 1921). The birth rate for 1922 was 27.2 (29.2 for 1921). The infant mortality rate was 87.6 (83.8 for 1921). Deaths from alcoholism were 62 (29 for 1921). (This does not include cases of acute poisoning that often result from drinking liquor dealt in by bootleggers). There were 17,427 cases of small pox, diphtheria, scarlet fever, tuberculosis (all forms), typhoid fever, measles, whooping cough, and anterior poliomyelitis during 1922 (15,595 for 1921). This increase was due to nearly 5,000 more cases of measles in 1922. The ten principal causes of death in 1922 in Detroit were: Pneumonia, (12.7); organic heart disease, (10.7); congenital debility, malformation and premature birth, (10); tuberculosis, all forms (8.6); cancer, (6.2); violence, (except suicide), (6.1); acute contagious diseases, (measles, scarlet fever, diphtheria and whooping cough), (4.6); Bright's disease and chronic nephritis, (4.6); diarrhoea and enteritis (4.5), and apoplexy and cerebral hemorrhage, (4.1).

County Society News

CALHOUN COUNTY

The regular meeting of the Calhoun County Medical Society was called to order by President Zelinsky,

in the dining room at 8:00 p. m. A motion was made, seconded and carried that the minutes of the last meeting be approved as printed in the Bulletin.

The Secretary read the following bills: Phoenix Printing Co., tickets for the banquet, Feb. 6, \$2.20; notice of postponement, \$2.65; Bulletin, \$9.75; Notice of March 8 meeting, \$3.15; Cornell Multigraph Co., letters regarding dinner, Feb. 6, \$3.15; Dr. Squier, mailing Bulletin and letters, \$2.52; dinners, Doctors Marshall and Chappell, \$3.00. After O. K. by the members of the Board of Directors present, it was moved by Dr. Shipp and seconded by Dr. Stone, that the bills be paid. The motion was unanimously carried.

Dr. Squier moved that the rules be suspended and Dr. C. J. Addison be elected to membership in the Society. The motion was seconded by Dr. Pritchard and unanimously carried.

Dr. Pritchard then introduced the speaker of the evening, Dr. W. H. Marshall, of Flint, who gave a valuable and instructive talk on "Syphilitic Aortitis" an abstract of which appears elsewhere. Discussion: Doctors Eggleston, Winslow, Squier, MacGregor, Stone, Addison, Shipp, Kingsley and Capron.

The meeting adjourned. Attendance at the dinner, 16; at the meeting, 21.

Theodore L. Squire,
Secretary.

TUSCOLA COUNTY

The Tuscola County Medical Society met at Caro, Mich., on March 22, at 2 p. m.

Minutes read and approved. Dr. Johnson of Fostoria, Mich., was elected as our delegate to State Society. Dr. Redwine of Cass City, Mich., was elected alternate.

Resolutions were adopted against the adoption of the Sheppard-Towner act and Secretary was ordered to send them at once to Lansing.

The Board of Censors reported as follows:

We, the Board of Censors of your Society, after two meetings and a thorough investigation of the charges against Dr. J. D. McCoy of Cass City, Mich., find that the charges he sustained as to "active participation in the Groit mal-practice suit," and Section 4, Chapter 2, A. M. A. Code of Ethics, in furnishing or inspiring newspaper or magazine comments concerning cases in which he has been or is concerned and we recommend his expulsion from said Society.

Geo. Bates
H. A. Bishop
J. D. Redwine

Moved and supported that the Board of Censors' report be adopted. Motion carried.

Dr. Dixon invited the Society to meet with him at Wohajungra, Mich., some day during the month of April.

H. O. Barham, Secretary,
Tuscola County Medical Society

IONIA COUNTY

The Ionia County Medical Society gave a complimentary dinner at the Hotel Belding Thursday evening, April 12, 1923, to the members of the Montcalm County Medical Society, which was well attended, twenty-four physicians being present.

The Hotel Belding management should be complimented for its cuisine, and the excellent service rendered.

After the dinner, Dr. Wm. J. DuBois, of Grand Rapids, Councillor of the Fifth District, was called upon for advice as to ways and means of consolidating the Ionia and Montcalm Medical Societies.

The meeting was opened by the appointment of

Dr. R. R. Whitten as temporary chairman, and Dr. F. A. Johnson as temporary secretary.

The following officers were elected: Dr. Robert H. Haskell, President; Dr. J. R. Hansen, Vice-president; Dr. F. A. Johnson, Secretary and Treasurer; Dr. J. F. Pinkham, Director, 3 years; Dr. L. E. Bracey, Director, 2 years; Dr. R. R. Whitten, Director, 1 year; Dr. F. J. Fralick, Delegate State Society; Dr. J. J. McCann, Alternate Delegate.

It was voted that the retiring director each year become president of the Society the ensuing year.

The Society voted to adopt the Constitution and By-laws of the Kent County Medical Society, with such changes as may become necessary to adjust them to the needs of the organization.

It was moved to name the new Society, The Ionia-Montcalm Medical Society.

A motion was made and carried that the place of meetings be at Belding, Greenville and Ionia, and that they be continued in this sequence.

It was voted that the next meeting be held at the Hotel Phelps, Greenville, the second Thursday in May.

Following the business meeting, the Society listened to Dr. Ferris N. Smith, of Grand Rapids, on Malignancies of the Face and Nose, a masterly address, which was illustrated by lantern slides. The discussion covered in detail, the classification of these growths, with reference to their gross appearance and manner of extension, the pathology, the technic of this class of plastic operations, and a resume of the end results with special reference to recurrence and cosmetic appearance.

F. A. Johnson, Secretary.

BAY COUNTY

The Bay County Medical Society entertained the druggists and dentists and their wives at a dinner dance, Monday evening, March 26th at the Grotto Club. Dr. Lambie, of Midland gave an address on the Sheppard-Towner bill before the dance.

Monday evening, April 9th, Dr. Max Burnell, of Flint, gave an address before the Society on the subject of "Placenta Previa." The paper elicited a free and interesting discussion.

The local Society swamped Senator Gansser, from this district with telegrams protesting against the chiropractic bill which had passed the House of Representatives. The Senator made written reply to all messages but was entirely non-committal as to his attitude.

L. Ferald Foster, M. D., Secretary.

HOUGHTON COUNTY

The Houghton County Medical Society has met regularly each month and the following programs given:

January—Placentae Praeria, Dr. A. C. Roche, Calumet. Differential Diagnosis in Disorders of the Heart Beat, F. D. Bourland, Lake Luiden.

February—Examination of the Chest in Tuberculosis with moving picture films, Robt. B. Harkness, Houghton.

March—The Sheppard-Towner and other legislative bills, J. W. Moore, Houghton.

April—Bovine Tuberculosis, Alfred LaBine, Houghton.

With many snow banks 10 to 12 feet in depth and the severest cold weather in March and April that the copper country has ever experienced we have had a good attendance at each meeting, averaging 12 to 15 members.

The following physicians have presented public health papers before clubs and gatherings:

Dr. P. D. Bourland on Goitre—Before the Torch Lake Civics' Club.

Dr. A. F. Fischer on Preventable Diseases—Before the Women's Clubs of Hancock and Houghton and the Finnish College students.

Dr. Alfred LaBine on Bovine Tuberculosis—Before different Women's Clubs in Hancock and Calumet.

The Soldier's and Sailor's Memorial Hospital at Laurium has opened its doors to the public. It has a capacity of 30 beds, cost about \$50,000, and is one of the most complete and up-to-date of the smaller hospitals of the state.

The Lake Superior General Hospital at Lake Linden is being remodeled, reddecorated and re-equipped at a cost of \$10,000. Members of the staff will entertain the Medical Society at the hospital in June. A Neurological Clinic will be the program and lunch will be served by the nurses.

Should the members of the State Medical Society become very tired of the different legislative discussions and cerebral storms now embracing the state and would like to go fishing this spring for trout, write to Dr. I. W. (Isaac Walton) Stern of Houghton. He knows how and when and where to catch the big ones. Bring your own bait.

Yours very truly,

C. E. Rowe, Secretary.

Book Reviews

HOW WE RESIST DISEASE. An Introduction to Immunity (Lippincott's Nursing Manuals). By Jean Broadhurst, Ph. D. Assistant Professor of Biology, Teachers College, Columbia University. 4 color plates. First edition. Volume 1. Size 8vo. 248 pages, with 138 illustrations. Price \$2.50.

This book, designed as a brief introduction to the exceedingly technical and apparent limitless field of immunity, has been prepared with special reference to nurses and general college students whose programs, ordinarily afford opportunity for but a single brief course in bacteriology, the needs of medical students and those able to devote more time to the subject being already well met by the several excellent and comprehensive text books on bacteriology and immunology. The author's aim has been to put into clear and simple language the main principles of immunity, covering in a general way the most important preventive and curative practices. To attain this end briefly, without affording opportunity for a large number of attendant misconceptions, is no simple task, and much attention therefore has been given to the illustration, not only their number, variety, and range, but their legends as well. It has thus been possible to present a few of the more difficult topics in two—sometimes three ways—the text, the illustration, and the description used with the illustration. In all cases every effort has been made to give enough detail to enable the student to picture the process or the phenomenon under discussion. The terminology has been made as non-technical as possible, many of the scientific terms being used parenthetically only.

Contents—Acknowledgements. Preface. Bacteria and their effect upon the human body. Active immunity, passive immunity. Toxins and antitoxins. Agglutinins and prescriptins. Oponins. White Corpuscles. Lysins. Vaccines. Anaphylaxis. Glossary. List of infections and casual organisms. Advanced references on immunity. Index.

THE MEDICAL CLINICS OF NORTH AMERICA. January, Philadelphia Number. Price per year, \$12.00. W. B. Saunders Co., Philadelphia.

Number four of volume six of this publication maintains the highest standard of these clinic publications. They are of intense educational value and should be in the hands of every progressive physician. This number contains twenty-one articles

by the leading Philadelphia internists and every one of them has distinct merit.

THE PATIENT'S VIEW POINT. P. J. Flagg, M. D. Price, \$1.30. The Bruce Publishing Co., Milwaukee, Wis.

A subject that should concern every physician. A subject that well merits consideration. A subject that could be discussed with profit. The author has succeeded to a certain degree but fails in his own reflections to represent the views of the profession. His reflections and observations are personal and not the universal attitude of thinking doctors. Some of the situations and incidents are overdrawn and based upon exceptions and not rules. A booklet that is read with fair degree of interest.

THE FORM AND FUNCTION OF THE CENTRAL NERVOUS SYSTEM. An introduction to the study of nervous diseases. Frederick Tilney, M. D., Ph. D., Professor of Neurology, Columbia University and Henry A. Riley, A. M., M. D., Associate in Neurology, Columbia University. Second Edition, 1012 pp., 763 illustrations. Price \$12.00. Paul B. Hoeber, New York.

We know of no similar or equal text. It is a most valuable study and presentation of neuro anatomy and neuro-physiology. If one is to become a competent neurologist and psychiatrist he must be possessed of the anatomy and physiological functions that the authors present in this text. We commend the work most highly and especially that feature that connects or associates given diseases with the narrative of the structural arrangement and function of the concerned brain and nerve tissues described.

THE HEART IN MODERN PRACTICE, DIAGNOSIS AND TREATMENT. W. D. Reid, A. B., M. D., Chief of the Heart Clinic at the Boston Dispensary. 351 pp., 32 illustrations. Price \$6.00. J. B. Lippincott Co., Philadelphia, Pa.

This book incorporates the best of the new knowledge with that which may be said to have stood the test of time.

Brief enough to be attractive to those whose opportunity to read upon a single aspect of medicine is limited.

It is uniquely arranged to present heart disease the condition of the myocardium, rather than by anatomical lesions which may be common to various types of heart affections. The new classification is from an etiological, a functional, and a structural viewpoint.

The action of syphilis on the heart is described in a single chapter, instead of in one place for aortic insufficiency, in another for the myocardial changes, etc., thus bringing together all of the data pertaining to one subject in one place.

Gives the reasons, as far as is possible, for the signs and symptoms mentioned, making a special effort to be clear.

Bedside diagnosis—in so far as it can be made in the cardiac arrhythmias is fully described.

Functional ability of the heart is determined by the condition of the myocardium, rather than by the valves, and its importance is emphasized.

Digitalis and the method of giving it in relation to the patient's body weight, etc., is fully detailed.

Quinidine Sulphate and its therapeutic use is fully described.

The use of electrocardiograph and polygraph are elucidated, but not allowed to crowd out the non-instrumental methods of diagnosis.

The case histories are from the author's practice, and are fully detailed.

Full references to literature are given to enable the reader to secure further information on any subject desired.

It is fully illustrated, and the tracings were made by the author in the Heart Laboratory of the Boston City Hospital.

The index is especially complete.

INFLAMMATION IN BONES AND JOINTS. Leonard W. Ely, M. D., Stanford University. Cloth, 480 pp., 144 illustrations. J. B. Lippincott Co., Philadelphia, Pa.

Covering the subject of bone pathology in a creditable manner and discussing from that point the various diseases of bones and joints, this text compiles an able treatise upon the diseases of these osseous structures. It is based upon present day knowledge and amplified by the author's observations and studies made at the Stanford University. In doing so he has succeeded in presenting a text of merit and an addition to our literature that is very acceptable.

DISEASES OF THE RECTUM, ANUS AND COLON. By Samuel Goodwin Gant, M. D., LL. D., Professor and Chief of the Department for Diseases of the Colon, Anus and Rectum at the Broad Street Hospital, Graduate School of Medicine, New York City. Three octavo volumes, totalling 1616 pages with 1128 illustrations on 1085 figures and 10 insets in colors. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$25.00 net.

At last we have a most superb and valuable text on Diseases of the Rectum, Anus and Colon. A text that is bound to be of exceptional value to specialists and practitioners. A text complete, and practical, covering anatomy, history, etiology, pathology, symptoms, diagnosis treatment and post-operative care. It is a text newly written from cover to cover by an author of eminence and recognized authority. A text that is wonderfully illustrated with cuts that are clear and intimately pertinent to the text thus tripling the value of this work. The text represents a most painstaking clarity in its descriptive and discursive trend, you seek, you are told and no doubt remains. You are instructed in fullest detail. This work is Dr. Gant's masterpiece and the like does not exist. It at once assumes the pre-eminent position which it deserves in our medical literature. It is a masterly production, the result of the author's labor for years and his personal experience. There is no text on the subject wherein the discussion so well advises the student and physician. No medical library is complete unless it contains this modern text. We commend most heartily and urgently.

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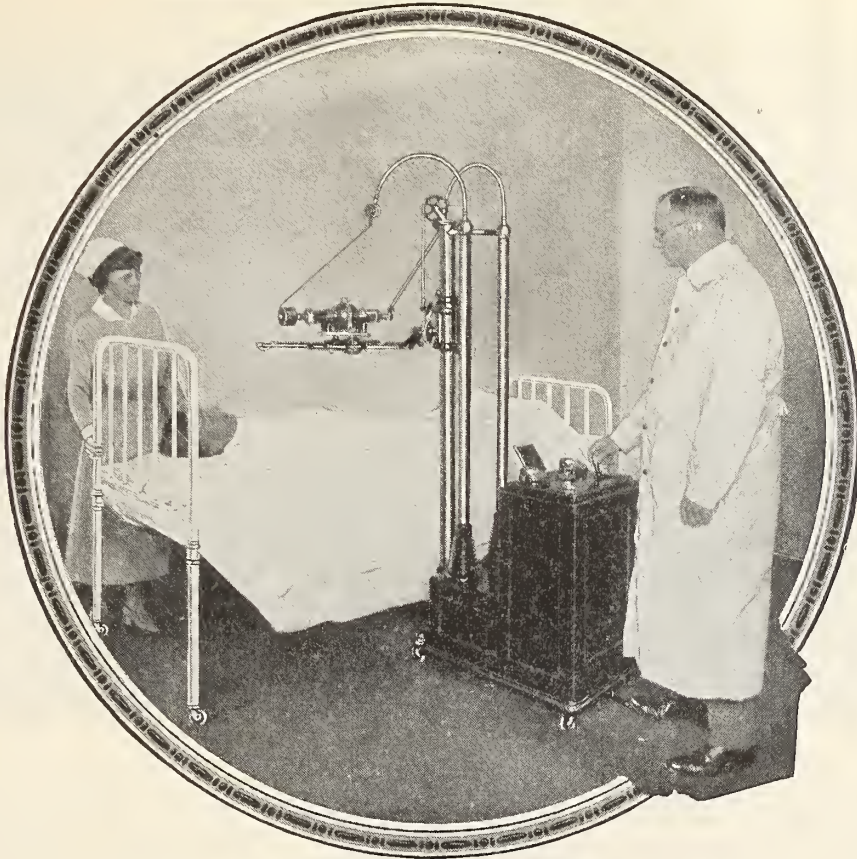
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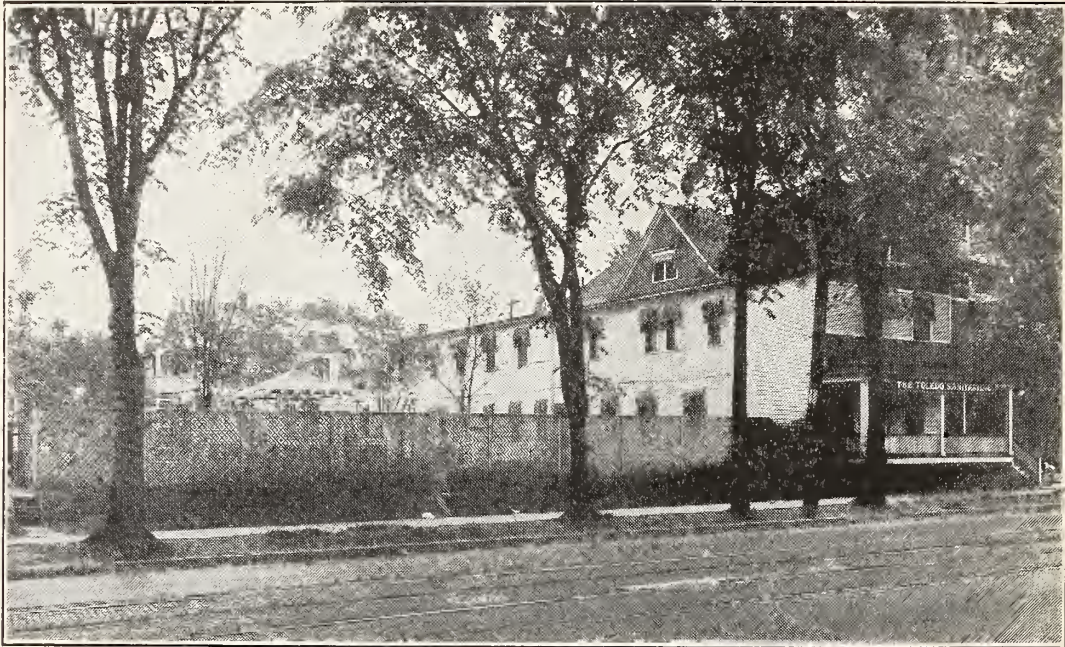
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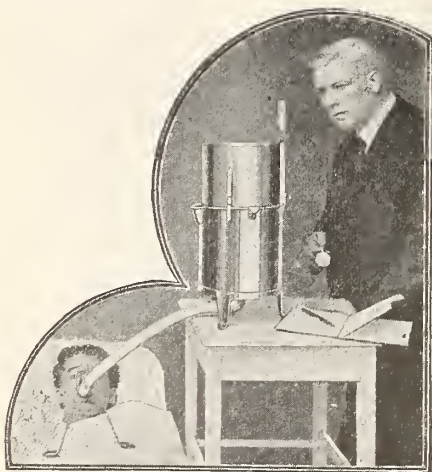
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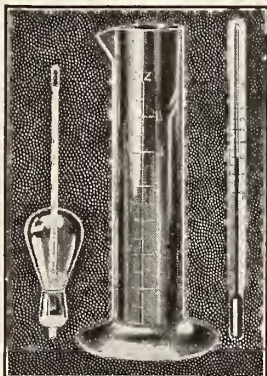
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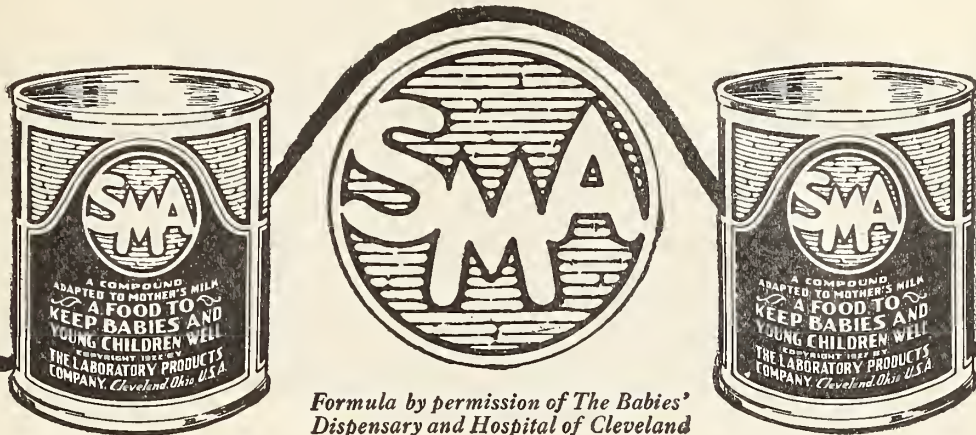
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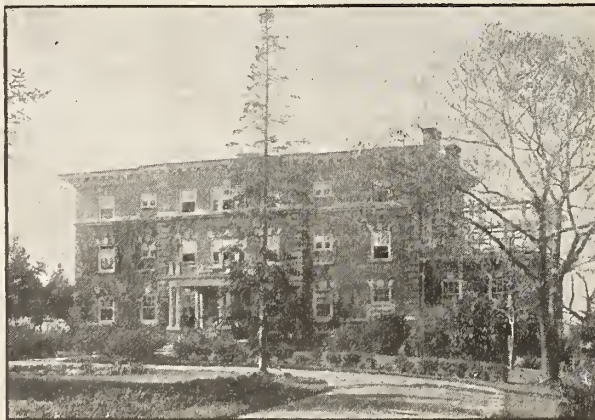
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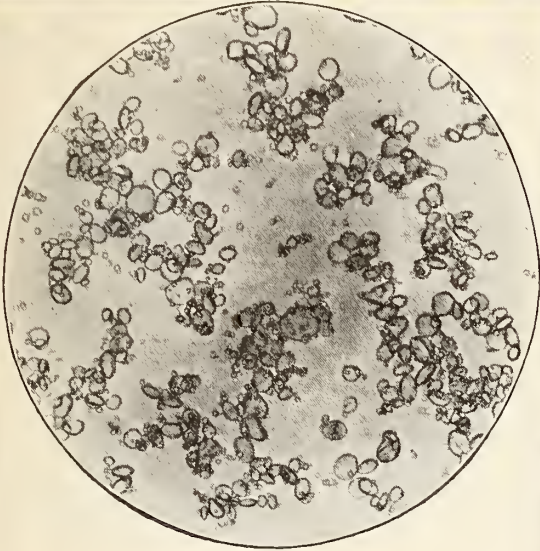
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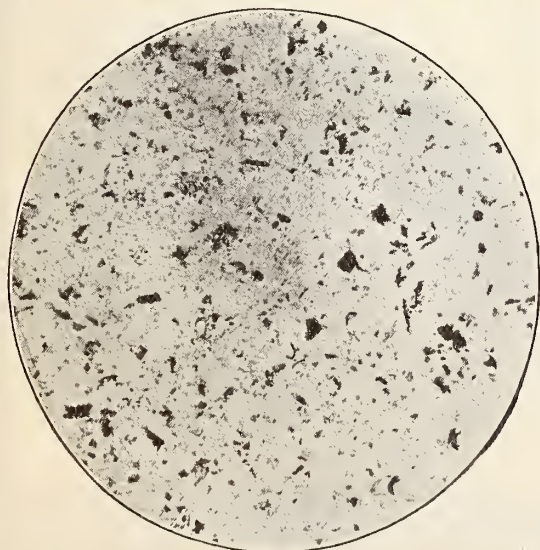
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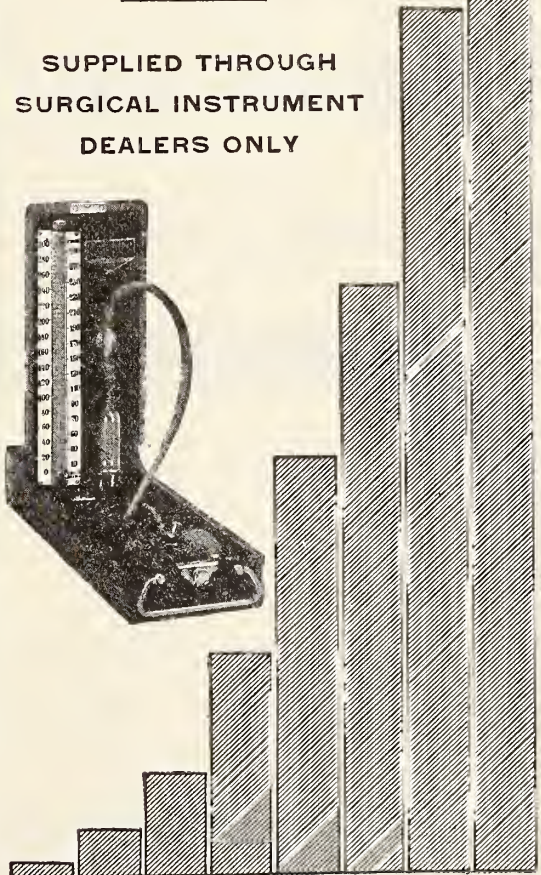
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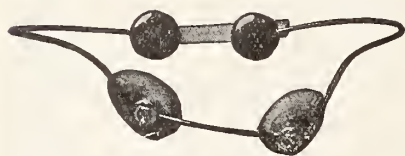
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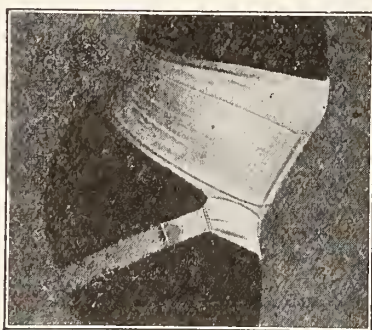
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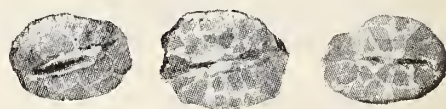
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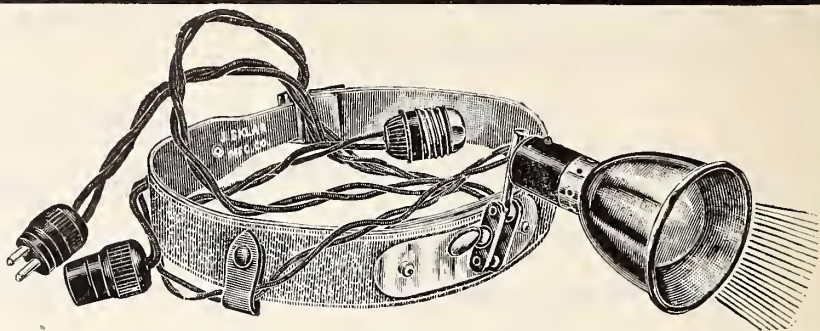
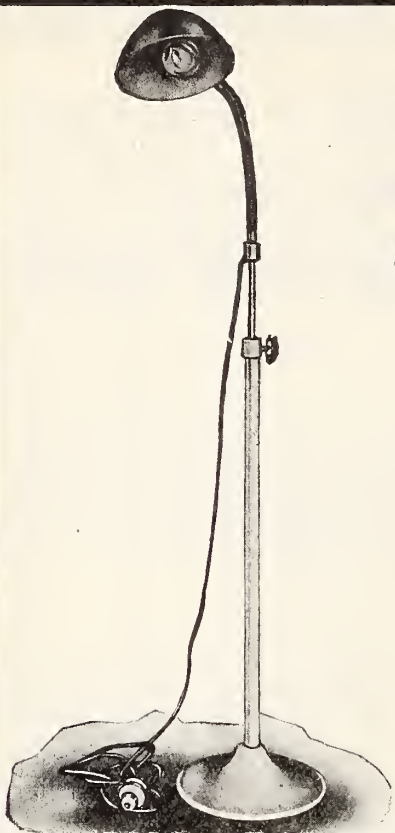
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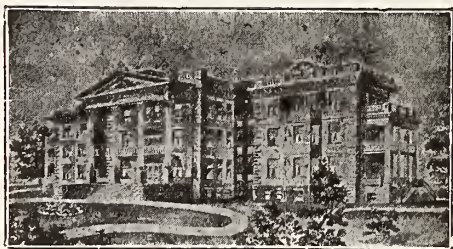
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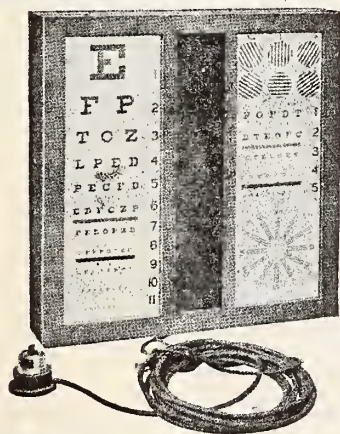
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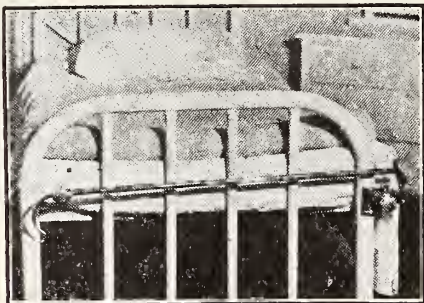
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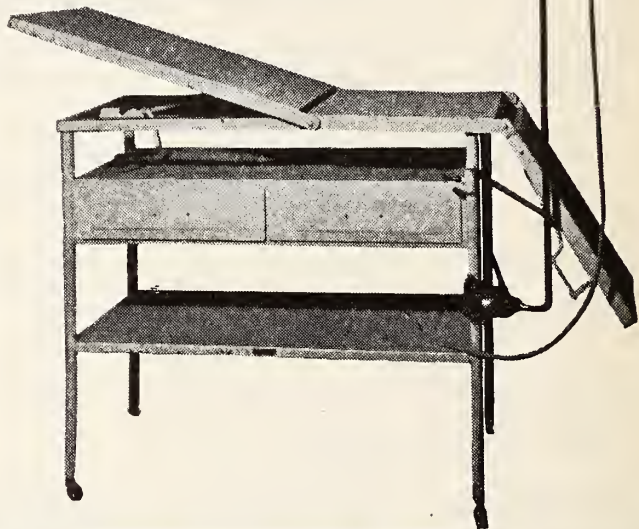
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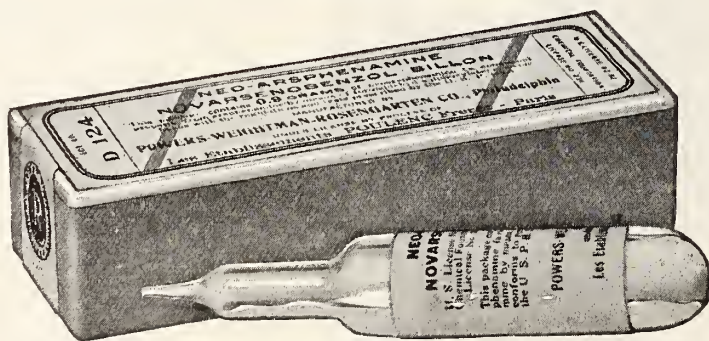
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Vol. XXII

GRAND RAPIDS, MICHIGAN, JULY, 1923

No. 7

Original Articles

HYSTERICAL PARALYSIS WITH REPORT OF CASE OF FIVE YEARS' DURATION*

LINUS J. FOSTER, M. D.
ANN ARBOR, MICH.

The case presented here is of unusual interest because hysterical paralysis with contractures of such severity is rarely diagnosed as such. The main features of the case were a spasmodic quadriplegia with contractures and a hysterical trismus of five years' duration.

A young woman, age 27, American, and single, entered the University Hospital complaining of "nervousness, jerking movements of the arms, and paralysis." Her father and mother were living and well. The same was true of all her brothers and sisters. There was no history of any other nervous disease in the family.

The previous medical history was entirely negative except for smallpox at the age of 7 and an appendectomy a few months previous to the onset of her present trouble. Her menstrual periods started at the age of 14 and have always been regular and not accompanied by any severe symptoms.

In 1917, while attending a celebration with a group of several girls, some men on horseback became mixed up in the crowd and she and a girl friend were thrown to the ground. She

did not remember of being actually thrown to the ground, but was told this later. Everything else concerning the incident was quite clear. She was taken home severely bruised and said there was a "large hole" on one side of the spine and a "lump" on the other side. At this time there was a generalized numbness. Soon after this she became "stiff all over" and has been confined to bed practically ever since.

During the course of her illness there was a period of 18 months during which she was blind. The trembling of which she complained on entrance to the hospital, had been present for six months. She had two similar attacks of this previous to the present one. Photophobia, dull and sharp pains in the back, "drawing sensation" of the eyes, had been symptoms from the start. The same was true of her inability to move her legs, arms and hands. The fists were clinched so tightly that it was necessary to keep gauze in the palms so that her finger nails would not pierce the skin. The trismus had also been present from the beginning of her trouble and the stiffness of her neck had been a symptom for a few months previous to entering the University Hospital.

When examined the patient was lying in bed in Fowler's position. (She was unable to lie flat because of the pain it caused) and apparently was comfortable. She was poorly nourished. The examination of the skin, hair and nails was negative. She replied promptly to questions but with some effort. There was a



Showing the Extent of Contractures on Admission to the Hospital

low pitched moan with each expiration, for which she could give no explanation. The arms were held acutely flexed at the elbow and the fists were clinched with the thumbs inside. The hands were held immediately beneath the chin. There was a continual rythmical fast, coarse tremor of the arms. It was impossible to test the pupillary reflexes because of photophobia. All of the extraocular movements were normal. There was no nystagmus nor anaesthesia of the conjunctivae. She was unable to open her mouth and for this reason could not protrude the tongue. The masseter muscles were somewhat contracted, but they contracted more firmly when she was asked to do so.

The biceps and triceps reflexes were present, equal and normal. The forearms could be passively extended, but only with a great amount of force. She could not make any movements of the lower extremities. They were held rigid in adduction with extension of the feet and flexion of the toes. The left foot was over the right. The knee and Achilles jerks were obtained with difficulty because of the rigidity present. Vibratory sense was preserved in all four extremities. The sense of motion and position of the toes was also preserved. The tendo Achilles tenderness was normal. There was a stocking type of anaesthesia. The back was held rigid. No abnormal curvatures of the spine were present. The umbilical reflex was present on both sides.

The general physical examination was negative. Her weight was 64 pounds. The examinations of the blood and urine were negative. Her blood pressure was 110/70. The blood Wassermann was negative and the X-ray examinations of the spine and of the knees showed nothing abnormal.

The patient was treated by psychotherapy by means of strict isolation and persuasion and received a daily treatment with static electricity to reinforce the suggestion. Two weeks after the beginning of treatment the hands were held open and the arms could be moved in any direction. She could also flex the legs at the knees and was able to chew her food. After another two weeks she was able to walk, but with a markedly hysterical gait. She continued to improve and was soon able to walk up and down stairs. Two months after her entrance she was discharged walking normally, having no complaints and weighing 105 pounds.

A case similar to this one was reported by Dejerine and Sesary (Revue Neurologique, May 1907) who showed the patient before the Paris Neurological Society. In that case there was no history of attacks of blindness nor of trismus as there was in our patient. Hysterical blindness is a relatively rare condition, but a

number of such cases have been reported and the practical importance of the recognition of such a condition is obvious. In a case reported by C. D. Camp (Jour. Mich. State Med. Soc. Nov. 1917) the blindness had lasted eight years but was rapidly cured by appropriate treatment. Trismus is also not infrequently an hysterical manifestation and might be mistaken for tetanus, especially if the patient shows rigidity or contractures in other parts of the body.

It is often said that hysteria, especially with its more severe manifestations, is more frequently found in the residents of large centers of population, but our experience does not seem to bear out this view. We find a large number of cases occurring in those living in the country or small village.

The importance of recognizing the true nature of a case of this kind lies not only in the benefit to the patient, but mistakes are distinctly detrimental to the credit of the profession.

MODERN VIEWPOINTS ON GASTRO-INTESTINAL SURGERY*

ALEXANDER MACKENZIE CAMPBELL, M. D.
F. A. C. S.
GRAND RAPIDS, MICHIGAN

The object of this paper is to consider in a brief and general way the present status of gastro-intestinal surgery, and it seemed to the writer that a short history of the development of this particular branch of surgical work might form an appropriate background to such a consideration.

Gastro-intestinal surgery was rarely attempted before the seventeenth century. Laparotomy was never performed by the surgeons of ancient times and it was not until the employment of anaesthesia, as originated by Morton and the introduction of Lister's principles of antisepsis, that this type of surgery really achieved a permanent existence.

During the seventeenth century attempts to remedy diseased conditions of the alimentary tract by surgical means were not uncommon, but we assume that the mortality attending such operations was nearly 100 per cent.

Neuberger (2) tells us that an Italian surgeon, Zambeccari, made excisions of small pieces from the liver and intestines of dogs and that he performed four successful operations in succession.

In 1711 Lorenz Heister, who was the greatest German surgeon of his age, performed the first post-mortem section, demonstrating the condition which we now term appendicitis; but it was not until almost one-half century had

*Read before the Surgical Section of the Canadian Medical Association at Winnipeg, June 23, 1922.

elapsed that the operation was performed upon a living subject.

Metivier (3) in 1759 published the first authenticated case of appendicitis in the following words: "A man aged about 45 presented himself at the hospital, St. Andre at Bordeaux, for treatment for a tumor situated in the right umbilical region. The surgeon perceived considerable fluctuation and made an incision which evacuated about a pint of evil smelling pus. The resulting ulceration was not very long clearing up, but just while there appeared to be a fair chance of recovery, the patient died. At the autopsy the caecum showed no abnormality, but was dotted with gangrenous areas. The condition of the vermiform appendix was entirely different; as soon as the organ was opened a large pin was discovered which was entirely encrusted and in part so corroded that the least pressure was sufficient to break it, a condition due not only to the humidity, but also to the acidity of the secretions shut up in the vermiform appendix. From the foregoing, it can easily be seen (although the patient had never spoken of swallowing a pin) that this foreign body had been retained for a long period in the caecal appendix, and had irritated the different layers of which this structure is composed, thus causing the progressive lesions which led to the illness and death of the patient."

It is singular that after such a clear report as was published by Mestivier that it was nearly a hundred years before the possibilities of surgery of the gastro-intestinal tract were realized. In 1849 Sedillot, another Frenchman, performed a successful gastrostomy. (4) The first gastrostomy in England was done by Forster in 1858, for a cancer of the esophagus. (5) In the following year he also operated on a child whose esophagus was contracted, due to the swallowing of a corrosive solution.

In 1859, Middeldorp of Breslau performed the first operation for the cure of a gastric fistula. At this time the introduction of anaesthesia and the application of Lister's principles to surgery made rapid advances possible in this particular field.

One of the greatest names of this period is that of Theodor Billroth, who was a pioneer in surgery of the viscera, in 1881, making the first successful resection of a large portion of the pylorus for cancer. (6) His numerous lectures and clinical reports were translated into French and English and "gave a strong impetus to the progress of operative surgery of the intestinal tract." (Billings).

Billroth is said to have been the first to perform the "inter-ilio-abdominal amputation," which is usually credited to the Frenchman, Mathien Jaboulay, who reported it in 1894.

Billroth lost his patient, which is probably the reason why he failed to claim priority.

In the period between 1878 and 1883 he made a large number of intestinal resections and enterorrhaphies, all of which did much to increase general understanding of the pathology of these regions, as they were indeed—as Naunyn has termed them—"Autopsies *in vivo*."

Samuel D. Gross of Philadelphia, who wrote the first systematic treatise on pathological anatomy produced in the western hemisphere, made many original experiments on wounds of the intestines, and Robert Alexander Kinloch, a native of Charlestown, South Carolina, who was in the Confederate medical service during the Civil war, was the first surgeon to open the abdomen in cases of gunshot wounds where there was no protrusion of the viscera.

The existence of appendicitis had been generally recognized since Louyer-Villermay published his paper concerning it in 1824, but the first successful operation in peritonitis caused by perforation of the appendix was performed by the New York surgeon, Henry Burton Sands, (8) on December 30, 1887.

Adolf Kussmaul of Graben, who began his career as an army surgeon, was a German who contributed much to the advancement of gastro-intestinal surgery. As far back as 1869 he had attempted gastroscopy, and even before that had treated gastric dilatation by washing out the stomach with a stomach tube. He also treated gastric ulcer with large doses of bismuth. (9) Another German surgeon, Anton Wolfer, introduced gastro-enterostomy in 1881, (10) and in 1897 Carl Schlatter successfully excised the entire stomach.

The end of the nineteenth century and the beginning of the present one saw many advances in the particular field of surgery we are considering. John B. Murphy in 1892 introduced his special button which made possible "cholecysto-intestinal, gastro-intestinal and entero-intestinal anastomotic approximation without sutures," and later developed anastomosis of the intestines by invagination.

The last twenty years has not seen the introduction of so many new interventions upon the alimentary tract, but in all directions there have been great advances in operative technique, and the successful extension of surgical aid to many cases heretofore considered quite beyond relief.

The diagnostic value of the X-ray has been of inestimable service to modern gastro-intestinal surgery.

Since Schlatter demonstrated that excision of the stomach was compatible with life, numerous improvements in the surgery of gastric carcinoma have been made. In 1911 the Hungar-

ian, E. Polya, (12) devised the operation bearing his name whereby he demonstrated the practicability of anastomosing the proximal gastric stump, throughout its whole length, directly with the jejunum. Freedom of action is secured by bringing up the jejunal loop through a slit in the mesocolon, and when the anastomotic suture has been completed, the stump of the stomach is drawn down through the opening in the mesocolon and the edges secured there. Balfour modified this method by attaching the jejunum about fourteen inches from its commencement to the gastric stump bringing the jejunum up in front of the colon.

In Breslau the Polish surgeon, Johann von Mikulicz (13) demonstrated a two-stage procedure for partial colectomy which—since 1902 when he first published an account of it—has been called by his name. He thoroughly mobilized that section of the intestine which he proposed to remove, stitched together the serous surfaces of both its afferent and efferent portions, and then delivered it through the abdominal incision. The incision was then closed up to the joint where the intestine came out, the skin edges stitched to the intestinal wall, and some protective ointment followed by a surgical dressing applied over the incision. Up to this point the intestine was not opened. The portion protruding from the abdominal incision was sometimes immediately incised, or left under the protection of the dressing to be removed later, when the “spur” would be clamped through and the severed ends of the intestine sutured together. This procedure was later slightly modified by Bruns, and it is the opinion of W. J. Mayo that the adoption by surgeons of this method has probably done more to extend operability and reduce mortality in resections of the second half of the colon than any other factor. In passing it might be mentioned that von Mikulicz was the first man to wear gloves while operating.

The most conspicuous British names among workers in the gastro-intestinal field are those of W. Arbuthnot Lane and Berkeley G. A. Moynihan, both of whom have received knighthood in recognition of their services to the cause of humanity.

Lane (14) is most famous for his work on chronic intestinal stasis—professionally designated as “Lane’s kink.” In the words of Arthur Keith, Lane has “reached the conclusion that the human caecum and the ascending colon serve as a ‘cesspool’ and put his new conception into practice either by excluding the great intestine from the digestive tract by ‘short-circuiting,’ or, at a later date, by its complete excision. The result of his operations show (1) that life is possible without a great intes-

tine; (2) that in certain cases the conditions of life are improved.”

Lane’s ideas for a time received quite wide acceptance in Great Britain, and in this country following his visit here a few years ago. While his teaching may well be regarded as *advanced*, if not altogether too radical, his work has undoubtedly done much to promote the technique and knowledge of surgical conditions in the lower bowel.

Moynihan (15) is now generally conceded to be the greatest of living English surgeons. His monogram on *Abdominal Operations* is a standard on that subject. His contributions to all branches of surgery have been so numerous that a mere catalogue would occupy many paragraphs. Some of his best work has been done upon the gall-bladder and its ducts, and his observations upon duodenal ulcer stand as a classic. Beside numerous writings of his own, he collaborated with two other distinguished Britons—Mayo Robson and Makins—in work upon the stomach and intestinal tract.

Returning to our own country we find a brilliant galaxy of those whose contributions to the particular field of surgery we are discussing are without parallel in medical history. Nicholas Senn, who came from Switzerland to Chicago when twelve years old was “a great master of intestinal surgery, especially in the treatment of Appendicitis.” He devised a method of detecting intestinal perforation by means of inflation with hydrogen gas, and also did much experimental work on intestinal anastomosis.

In Philadelphia, we find John B. Deaver, (16) of whose extensive contributions perhaps the best known are those concerning Appendicitis. The *Surgery of the Upper Abdomen*, which he produced in collaboration with Astley Paston Cooper Ashurst, (17) another Philadelphia man who has apparently found no difficulty in upholding the traditions of the name he bears, is a standard clinical text-book in the United States.

The Mayo Brothers can be said to hold a unique place in the history of American surgery. At their clinic have been performed some of the most extensive and remarkable operations ever successfully undertaken by abdominal surgeons. The story of the work done at the Mayo Clinic could almost stand alone as a history of gastro-intestinal surgery in America during the last fifteen years. The methods of “The Mayo Brothers” are not spectacular, and the procedures to which their names are attached are not marked by startling originality. Their pre-eminence lies rather in a system and thoroughness, an absolute knowledge of every essential—whether it be of asepsis, anatomy or mere mechanics—which can render the out-

come of a given procedure almost as certain as a mathematical problem.

It is obvious from the foregoing history that surgery of the gastro-intestinal tract has undergone a most interesting evolution, an evolution which has resulted in the conquest of many of its pathological conditions.

The modern surgeon, if he measures up to his responsibilities, and if he lives up to the traditions of the pioneers in the work under our consideration, has tremendous responsibilities confronting him, and it is his duty to avail himself of all the experience of his predecessors, to improve present day methods, and if possible to exercise a practical imagination toward future improvement and development.

Bearing in mind that the alimentary tract is a continuous, tubular structure upon which nutrition and very life itself depends, a structure which cannot be out of function for any length of time without serious consequences, a structure that cannot permit of any solution of continuity, such as a leakage, without the gravest possibilities of infection, or that cannot be obstructed without severe toxæmia, the gastro-intestinal surgeon faces in his work possibilities of the most formidable type in surgery.

On the other hand, one can state that at the present time surgical intervention on the gastro-intestinal tract has reached a degree of safety whereby most radical attacks can be made upon its constituent parts with an extremely low mortality.

As was demonstrated by Schlatter in 1897 it is possible to successfully remove the entire stomach, and, while it is rarely necessary to completely extirpate this organ a greater part of it may be safely removed by some of the newer modifications of Billroth's original method. Polya, and later Balfour, improved Billroth's method, and at the present time by uniting the jejunum to the entire stump of the stomach, using the ante-colic method, the greater part of the stomach can be removed, leaving only a cuff. We believe that Balfour's suggestion of attaching the jejunum to the stomach about 14 inches from its commencement, is a most important modern procedure in gastric surgery, for it permits of a very extensive resection and minimizes the danger of tension and consequent leakage which have occurred so frequently in the original Billroth and other methods.

The writer believes that the modern viewpoint in the management of peptic ulcer is that of extreme conservatism, the employment of expert medical treatment, the insistence on the exercise of eternal vigilance in the use of a bland diet, and that this medical and dietetic treatment should be given a prolonged trial before surgical interference is advised. If after an intelli-

gent and prolonged medical and dietetic treatment, hemorrhages, marked deformity, perforation, or obstruction occur, operation of the most radical kind should be performed. Gastric and duodenal ulcers, should be excised by the scalpel or treated by the actual cautery; resection and gastro-enterostomy, or pyloroplasty may have to be performed. The writer believes that where profound anemia exists very poor operative risks can be operated upon safely by the administration of a blood transfusion beforehand. We desire to accentuate the value of blood transfusion in gastro-intestinal surgery when there is a severe degree of anemia.

In the treatment of perforated duodenal ulcer immediate laparotomy must be performed, with the inversion or excision of the ulcer, plus gastro-enterostomy.

These cases carry a high mortality and in operating the surgeon should open the abdomen prepared to suit the operation to the exigency of the case. The use of the duodenal tube following operation is a modern idea of advantage in some cases.

Sir Arbuthnot Lane has demonstrated that the entire colon can be removed successfully, but the after results that have followed colectomy in the opinion of the writer, rarely justify such a radical procedure.

As the writer sees it at the present time more attention is being paid to the restoration of the continuity of the gastro-intestinal tract to as nearly a normal condition as possible. And in this work, it is, generally speaking, a safe principle that when operating one should leave the parts in as nearly as possible the same condition as they were before pathology produced destruction and deformity which calls for operation.

We desire to accentuate the fact that the modern tendency is toward an end to end anastomosis rather than the lateral, or side to end union. The former method can be used almost invariably in uniting the ends, not only of the small intestine, but also that of the small and large intestine and in the resection of the large bowel.

We believe that the abandonment of the lateral method illustrates one of the modern advances in intestinal surgery. Axial approximation of the ends of the gut restores it to as nearly a normal condition as possible and permits the intestinal contents to proceed in a normal and unobstructed manner which does not obtain by the other methods of intestinal union.

A perusal of the literature on this subject leads one to observe that modern surgeons are earnestly endeavoring to reduce infection to a minimum, especially in colon and recto-sigmoid surgery. The high degree of infectivity of the

contents of the large bowel has produced in the past an alarming mortality and it is not surprising that methods have been sought to reduce the soiling caused by intestinal contents in this part of the gastro-intestinal tract. A recent article by Schoemaker of the Hague and Halsted of Baltimore are worthy of consideration and we have performed experimentally and successfully the operations suggested by them.

Schoemaker describes his operation as follows:

"After the colon is cut on either side of the tumor the ends which are closed by the clamps, are brought together to be sewed. I begin with the serosa at the back, as a rule using six interrupted sutures. Then I suture the mucosa and the border of the muscularis and serosa. I can see the three layers because I have already pushed aside the last two. The clamps are now turned around upon their axis and the suture through the three layers at the front is made over the blades of the clamps. The last stitch cannot be tied until the forceps are taken off. The forceps are removed by the assistant and just at the moment he releases them the knot is drawn tight by the operator. I suture the serosa with a continuous stitch, and the union of the intestine is complete. During the whole operation the lumen of the colon has not been opened and we have not seen or touched the inner side of the mucosa."

Halsted has devised an end anastomosis by which he attaches the enclosed ends of the gut and perforates the double diaphragm with a knife, introduced through the rectum. He has performed this operation on the colon on forty-seven dogs without a death and without abnormal convalescence. We have made experimentally a slight modification of Halsted's method and instead of introducing the knife into the gut per rectum we have made a small incision on the distal side of the anastomosis opposite the mesentery and perforated the diaphragm in this manner.

We desire to emphasize the use of the rubber tube in anastomotic work on the large intestine. A piece of rubber tubing of appropriate size and length maintains the patency of the anastomosis, mobilizes that part of the gut, minimizes the danger of leakage and infection, prevents kinking and obstruction, and constitutes one of the modern improvements in the technique of this work. We have used the Balfour method of inserting the long rubber tube at the site of anastomosis, passing the tube about four inches proximal to the anastomosis, and having the distal end protrude through the rectum, and have found its use most satisfactory. F. N. G. Starr of Toronto, uses a piece of rubber tubing a half inch in diameter and one and one-half inches long at the site of the anastomosis and speaks favorably of its results, stating that the tube passes per rectum in from five to seventeen days.

Our personal experience has taught us that a speedy and accurate and delicate technique in

gastro-intestinal surgery can only be maintained by resort to frequent animal experimentation, and we endeavor to operate upon the living animal at least once a week in order to develop teamwork and to familiarize ourselves with the newer procedures which appeal to us. The necessity of a perfect and harmonious co-operation between the surgeon, surgical assistant, nurse and anaesthetist is the great desideratum in the success of this work.

CONCLUSIONS

1. Modern surgery of the gastro-intestinal tract has progressed to such an extent that very radical procedures can be performed with a low mortality.

2. There is at present a tendency to restore the continuity of the gastro-intestinal tract in a very simple and natural manner.

3. The general adoption of end to end anastomosis should be more strongly recommended and the use of the rubber tube at the anastomotic site in the large intestine is a modern expedient of undoubted value.

4. In order to do modern gastro-intestinal surgery the surgeon should frequently resort to animal experimentation so that he can develop a technique that will make this work speedy, accurate and efficient.

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EARLY MOBILIZATION IN THE TREATMENT OF FRACTURES*

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Since the war there has been a lively interest manifested in the treatment of fractures. It is becoming more and more appreciated that most fractures, given the proper treatment, show good results. Workmen's Compensation Laws and courts generally are recognizing that the patient is entitled to a good result in by far the greater number of cases, and this demand is reflected in the surgeon's present day striving for early restoration of function and efficiency, his increased interest in fundamentals, his demand for critical analysis of results and standardization of method.

In the present state of our knowledge, it is not sufficient to diagnose fracture and relegate the patient to a routine plaster fixation. The mechanics of the injury, what is the shortest period of disability, the proper method and duration of fixation are now considered worthy of the best surgical judgment and technic.

The three stages in the treatment of fractures may be considered as: Reduction, fixation and mobilization.

For the past ten to fifteen years, accurate reduction, then absolute fixation for three or four weeks was the rule. Function was not thought of so much as bony apposition. Though the war didn't add much of an original nature to the treatment of fractures, it did materially change our view-point regarding the relative importance of mobilization compared to fixation. The more modern view-point is that early mobilization, the continued outlook toward ultimate function, the shortening of the period of disability to the minimum, are the desiderata to be obtained in the ideal treatment of a given fracture. The principles of early movement in injuries are not new. More than thirty years ago, in Germany, insurance and industrial concerns noticed that workmen with Colle's fractures which had been immobilized three or four weeks were returned to work one, two, or three months later than those who had had early motion. These methods are generally ascribed in the literature to Lucas Champonniese, the distinguished French surgeon, who, in the early days of this century, advocated early massage and motion in the treatment of fractures amid a storm of protest. Later Mennell (1) in England, a very enthusiastic pupil of Champonniese, invited attention to a mode of treatment which as he expressed it "has met with little favor in this country." It remained for the war, however, to popularize early mo-

tion and to demonstrate similarly the evils of prolonged fixation. Before the war orthopedists probably generally recognized these principles, but the general surgical attitude was well expressed before this society last year by Kenneth Bulkley (2). "Before the X-Ray surgeons strove for function; after the X-Ray, for the anatomical result; since the war, again for function. Good function is far more necessary than bony union in anatomical position, and neighboring joints must not have their functions so limited during healing that it will take months or years for them to re-obtain normal range of motion. Muscles should not be so hampered that marked disuse takes place; nor should blood vessels lose their tone so that edema persists for a long period after bony union."

Consider for a moment the pathology of a fracture: There is more or less solution of continuity of the bone, with tearing of the periosteum; there is always considerable bruising and laceration of the muscles; there is always extensive bleeding and extreme local edema. If the fracture be in the neighborhood of a joint, there is tearing of the ligaments and violent hemarthrosis. The bony break once reduced, it is the hematoma in the muscles, the serous edema of the subcutaneous tissue, the effusion of the joints, the filmy adhesions in the tendon spaces which require treatment, for these produce myositis, ankylosis, adhesive synovitis, etc.—conditions which are responsible for a large share of poor results. Often times a bad result is due to permanent damage of tissues entirely uninvolved in the break. Certain fractures are very difficult of reposition; for example, fracture of the lower third of the femur, fracture of the patella with separation, spiral fractures, fracture of both bones of the leg, etc. However, as a general statement, once a fracture is properly reduced, after a few days it shows little tendency toward misalignment. The periosteum is an excellent limiting membrane. A properly set Colle's fracture can generally be held by a simple splint. It would require a good deal of force to dislodge a subperiosteal crack in the tibia.

After adequate reduction, then, the bone needs only support and protection. As a matter of fact, a slight bit of motion at the site of fracture distinctly favors and aids bony union because the loose osteogenetic cells are thereby irritated. A fractured rib—in the continual motion—rarely fails to unite. A fractured skull—absolutely immobile—shows the poorest osteogenesis of any bone in the body.

The pathological changes in the soft parts must next be absorbed. Upon the rapidity with which absorption takes place depends the de-

*Read before the Wayne County Medical Society March 27, 1922.

(1) Mennell J. B. *Massage, Its Principles and Practice*. Blakiston, 1920.

(2) Bulkley, Kenneth. *Bulletin Wayne County Medical Society*, November 1, 1920, Vol. XII.

gree of residual change and deformity. The tendon sheath, filled with fluid at first, soon shows filmy, structureless adhesions, and after two or three weeks immobilization there may be beginning plastic synovitis with round cell infiltration, and obliteration of the peri-tendinous spaces. Similarly, as a hemarthrosis recedes, delicate adhesions, mere strands of fibrin, remain. These become organized and vascular in eight to ten days. Early motion, when adhesions are films or fibrin and exudates are homogeneous serous fluids is much more effective than movement two or three weeks later when there are dense vascular bands, obliterative tenosynovitis, etc. The chief reparative agency in all these processes is the circulatory system. Consequently, therapy should continually maintain and give all aid to the local nutrition and should aim to prevent fibrous adhesions, plastic exudates, organized infiltrations ever forming.

A principle elaborated recently by MacKenzie* is the paramount importance of the muscular system in the economy of the limb. A bone has its existing shape solely because of the muscular attachments about it. Where muscular function is added or increased the bone hypertrophies and assumes ridges, irregularities, etc. When function wanes, or atrophy ensues, the bone becomes rounded, smaller, less dense. There are innumerable instances of this relationship in the phylogenetic scale of muscular development. "It is the length, size, and tonicity of the muscles that maintain the normal length and size of the bones, and not the reverse, as is so often and erroneously taught." An easy corollary to this is that the nutrition of a bone depends upon the state of activity of the muscles playing about it. Now, muscular nutritive equilibrium is kept up by muscle tonus—the nerve stimulation of continued mild bodily movements. When a muscle is rigidly fixed, it atrophies more quickly than almost any tissue in the body, because this tonus is lacking. Ten days immobilization of the quadriceps may leave a thigh which will not regain the diameter, tone, etc., of its fellow of the opposite limb for two or three months. A foot-drop left for only two or three days may take two weeks to recover. The rapid muscular atrophy of a rigidly fixed limb brings on a rapid bone atrophy—one need only note the bone absorption shown roentgenologically in any limb which has been fixed for a few weeks to prove that. Conversely, nothing will so aid bony repair as maintenance of muscular tonus with its dependent nutritive equilibrium. Another important principle is the close relationship existing between

a joint and the neighboring muscles. Joints, and the muscles playing about them, have the same innervations. The slight but continual joint motions probably have a good deal to do with normal muscular tonus, and conversely the maintenance of muscular tonus about a joint prevents ankylosis. To prevent ankylosis and maintain tonus only slight movements are required, but they must take place frequently, and must not be absent for more than a very brief space of time.

The Balkan frame suspension apparatus was the most popular method of fracture treatment developed during the war. It was a satisfaction to see fractures of the humerus, for instance, so frequently unite in 10 to 20 days, even in the presence of suppuration. The reason was that the limb, cradled in "physiological rest," with the bony ends brought into apposition by neutralizing muscular pull, required a minimum of traction and hung relatively freely suspended. The limb retained its continued slight motion, its muscle tonus, its joint sense, its full blood supply. The healthy state of the soft parts directly aided bony repair, and the processes of resorption of exudate, effusion, hematoma, etc., were not interfered with. Joints were given no chance to become stiff. Small wonder that a bone united more quickly!

Finally, when a limb is removed from plaster fixation, two, three, four weeks, sometimes months of limbering up processes are necessary before full function is returned. If the soft parts are continually kept in normal supply, full function, this is unnecessary or reduced to a minimum. Function is restored as soon as bony repair is firm. With the limb kept in full nutrition, there is union, on an average, within two or three weeks—that is, for preservation of continuity. This does not mean for weight bearing, or carrying burdens.

To summarize the advantages of early motion. (*)

1. Persistent fibrous degeneration of the muscles, degeneration of the ligaments, adhesive and plastic synovitis are all avoided.
 2. Muscle tonus is maintained.
 3. Bone absorption is reduced to a minimum.
 4. Joint sense, and vaso motor tonus are also kept up. Both are very important in the nutrition of the limb.
 5. There is less danger of ankylosis—breaking up of adhesions not necessary.
- Two, three, or four weeks or months of limbering up are unnecessary.

METHODS*

Mobilization of fractures is carried out by the use of three agencies—massage, passive mo-

*MacKenzie, Wm. Colin. *The Action of Muscles*. A. K. Lewis, 1919.

*Mennell Ibid.

*These methods follow in general those of Mennell.

tion, and active motion. One cannot get the best, or often any results by simply ordering a limb to have massage. The limitations and dangers of each manipulative procedure must be known and guarded against. The principles of massage and graded motion and their basis in the anatomy and physiology of the muscular system must be continually considered.

A torn periosteum allows the extravasation of osteogenetic cells. Vigorous massage has been known to cause these cells to proliferate into large bony tumors in the adjacent soft parts. Too enthusiastic motion may produce a little callus about a joint or nerve which may cause considerable malfunction. A violent movement may disrupt newly formed vascular channels and allow of more extensive extravasation. There may even be sudden thrombosis. These dangers are real, and unless systematically avoided, motion had best not be attempted. Early movement and massage—within the first week—must avoid the site of injury. No procedure should cause pain at any time. Progress must be graded with the increasing strength of the limb, but must never overstep its capacity. The surgeon's supervision of the "dose of motion" for a fractured limb should resemble the pediatricist's watchfulness over the baby's changing milk formula.

MASSAGE

The chief value of massage is in aiding the venous return to the heart. It can accomplish this in two ways. First, by milking the superficial veins towards the heart: Pressure in these veins is very small, and hence very light movements accomplish all that is possible. Firmer movements tend to dam back the blood flow. Secondly, by vaso motor reflex action. In the early stages after injury, there is intense muscular spasm and widespread loggy edema. Mennell holds this outpouring of fluid to be due to vaso-motor paralysis of the finer blood vessels. The tone of these vessels can be stimulated by gentle superficial stroking, the mechanism being a skin muscle reflex initiated in the nerve end bulbs of the dermis. It is analagous to the plantar or cremasteric reflex, and is the reason a dog will lick his broken leg. The importance of the vaso-motor mechanism in the limb has recently been given a new foundation by demonstration that the capillaries are subject to vaso motor control.* Stimulation of cutaneous nerve receptors require only the gentlest superficial stroking. Heavy kneading or pounding of muscles does no good—on the contrary, these procedures, the commonest form of massage—excite a protective contractile reflex in the muscles and constrict the small

vessels. Massage being able only to increase blood supply, per se it cannot increase the bulk or strength of a muscle. What it does is relieve muscular spasm, and promote the absorption of exudate. Its chief function after the first few days is as a good preliminary or ending to a "dose of motion" and here it is invaluable. Unless the masseur realizes that in the treatment of fractures massage is only a means to an end, he is accomplishing nothing. Light, gentle stroking and friction are all that are needed. The whole limb should be massaged, and, until there is firm fibrous union, the immediate vicinity of the break should be avoided.

PASSIVE MOTION

This is movement of a limb entirely by the operator. The patient must be relaxed, the limb supported, no joint of the limb neglected, each joint moved in its several directions. Movements in the vicinity of the injury should consist of several small motions, and then at the end, one sweeping movement throughout the maximum range of motion possible. Movement in the direction of displacement should be avoided. No pain or spasm should be caused, as a protective contractile reflex is immediately called forth; then the movement is forced, and more harm than good ensues. In the involved joints, an increased range should be secured each day. The limb must be controlled throughout the entire range of motion given. The patient must co-operate fully and relax the limb entirely—often very difficult to obtain at first.

Relaxation is not a mere passive phenomenon. Whenever a muscle contracts, there is active relaxation or "paying out the slack" of its antagonists on the opposite side of the joint. This is a function chiefly of the elastic tissue in the muscle, but it involves work, and the two processes are represented together in the cortex.

Joints are accustomed to function together. Thus, when the knee is flexed, the hip is flexed; when the wrist is flexed, the fingers are extended, etc. These are also represented together, so that the cortical impulse is for the entire movement—the synergistic contraction of several muscle groups and relaxation of all of their opponents.

In passive motion, therefore, the normal movements should be copied; extend the fingers while flexing the wrist, extend the shoulder backwards while flexing the elbow. It is often of advantage to move the sound limb first, as this aids the higher physiological co-ordination. If there is pain, the movement is forced, and more harm than good ensues.

Thus, passive or relaxed movements are not easy to carry out properly. Their chief ad-

*Hooker, D. R. Evidence of Functional Activity on the Part of the Capillaries and Venules. *Physical Review* 1, 112, Jan. 1921.

vantage is that they can be used earlier than active motion and after moving the limb passively a few times, a wider range of active motion can be secured than would have been possible otherwise.

ACTIVE MOTION

This is the most powerful aid at our disposal to hasten healing and limit disability. Nothing can supplant active voluntary motion in the prevention of muscular atrophy, and often a very little motion, if continued, will suffice. Active motion must be used with a certain amount of caution, however. As a general statement, the patient's own active movements can do no harm, for he himself stops when the danger signal—pain—is noticed. No movement of any sort which causes pain should be allowed.

The weakened muscle must be given a task which, of its own power, it can accomplish. In a weakened or paralyzed muscle, the innervation is markedly impaired. For this reason it differs from a normal muscle in that if too great a strain is put upon it, instead of attempting the load as a normal muscle would, it refuses absolutely and does nothing. Given lightly graded tasks, however, its power increases, often with astonishing rapidity.

As the muscular system developed and gradually assumed complexity, functions or additional powers were often added to individual muscles. Thus in a low marsupial, the quadriceps femoris can only extend the flexed knee. In man, it can not only extend the whole limb, but contributes markedly to the stability of the erect position. When paralyzed or atrophied, its return to normal strength reproduces this development, or as MacKenzie expresses it, "recovery follows in evolutionary sequence." In muscle re-education, the load must thus accurately fit the capacity of the muscle, must gradually increase the returning power and must not overstrain it. In early active movement, the limbs should be so placed that the action of the force of gravity is reduced to a minimum. This can often be best accomplished by the patient lying prone and having the limb glide over a smooth board. Thus a quadriceps which cannot lift the heel off the ground may be able easily to extend the flexed knee when the patient is lying on the side, with the affected leg uppermost. A weakened deltoid may not raise the arm from the side with the patient erect, but with the patient lying down, elbow flexed, forearm vertical, arm gliding upon a smooth board to lessen the pull of gravity, the same muscle might move the arm 10 to 15 degrees. Allowing the muscle in this manner to do only what is within its power, but doing that task often, it is gradually educated, and

may return to full function rapidly—sometimes within one to two weeks.

In passing from extreme flexion to extreme extension, the mid portion of the movement—the arc midway between flexion and extension—is the easiest. Motion should therefore begin in this position (e. g. midway between pronation and supination in the forearm) and increase five to ten degrees or so daily.

Because of the delayed and weakened innervation, it is of distinct advantage to move the sound limb with each exercise of the affected joint. All new exercises should first be learned by the sound extremity. Frequently this does away with the inco-ordination and ataxia of deficient volition.

When the weakened muscle has moved the limb as far as possible, often an increased range of motion can be obtained with the assistance of various degrees of passive motion. This is called assistive motion. The assistance varies from a light finger touch to firm pulling.

Soon the muscle will perform its function with the weight of gravity gradually added—flex the elbow from a position of arm hanging at the side, etc. Later, resistive exercises can be introduced—flexing the elbow against the pull of the masseur, or extending it while pushing the operator away.

Active and passive movements can be begun the second to the fourth day, removing the splints each day for the treatment. When begun this early great caution should be practiced, and unless operator and masseur are familiar with the pitfalls and danger signals, it is best to wait seven to ten days. The movements are simple, however, once the underlying principles are grasped. Early motion should be "little and often"—it is very easy to overdo. It requires much more personal attention, for it is much simpler to put on a cast and leave it; but the results especially in the adult and aged are worth the extra effort.

THE MEDICAL PROFESSION SEEN THROUGH THE EYES OF A PREACHER

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"Bob" Burdette, who in ordinary life masked under the title of the Reverend Robert Burdette, as a result of an accident in early life, wore an artificial eye. One day two women of uncertain age who were deep admirers of that magnetic personality called on him and stated that they had been considerably concerned about his physical infirmity and had been praying for some time that God would restore his natural eye. Mr. Burdette thanked them gra-

ciously for their solicitude and for their faith, and then added, "But don't you think, my dear ladies, that while you are praying about my artificial eye, you might also pray about your false teeth?"

Some physicians may, I judge, be inclined to suggest that a preacher has field enough in his own profession for the application of his suggestions without trying to pass them on to another profession. What I write, however, is not written so much as a preacher, but more as a man coming, perhaps, in closer contact than ordinary with the members of the medical profession, deeply interested in their work, and highly valuing it. It is doubtless colored, nevertheless, by the fact that I am a preacher.

Any person attempting to keep abreast of the major developments of knowledge and science has been keenly interested in what might be called the scientific progress in the treatment of disease. With due allowance for hokum in the claims made, there has been great progress in the results of which we all share and rejoice. To those giving themselves to scientific investigation in this field, we would give all honor. And yet, we wonder if the physician and the specialist have not tended to overplay their part as scientists. Is there not something about a cold scientist that incapacitates him for best work in dealing with individuals in need? The scientist is not so much interested in the patient as in the course of the disease; the very dispassionate consideration of the facts which makes him a success as a scientist, incapacitates him for dealing with the individual patient. There is room in the medical profession for scientists and need for their investigations and researches, but does not the man dealing with patients need certain other qualities which may make him perhaps less of a cold scientist, but much more of a physician? I am inclined to feel that many specialists and surgeons have over-emphasized the scientific element in the treatment of disease and underestimated what might be called the human element. There is a feeling on the part of many folks that they are considered an "interesting case" rather than an individual desperately needing help.

Perhaps this attitude has been partly responsible for the prevalence of mental and religious healing cults. While the physician has tended to confine himself too exclusively to the course of the disease, the so-called healer has been concerned with the mental attitude of the individual. The physician should increasingly realize that it is not an unimportant bit of side-play, something added gratuitously to his actual service, to help allay the fears and to produce that poise of mind and body so essential to basic physical functions such as circulation of

the blood and digestion. It is just as essential and sometimes more so than to give antitoxin or to remove an appendix. Surely we would realize that the physician needs every possible aid, and that the utmost that can be revealed by test-tube, X-ray, microscope and all the scientific equipment is little and inaccurate enough; yet he is more the user of science than a scientist—he is primarily one who brings the results of the scientists to meet human need.

If the physician is one who is judged by his results with the individual patient rather than by his efficiency in "pure science" a corollary follows which some physicians will immediately resent, and in the statement of which I will be immediately accused by some of reverting to professional clap-trap. But whether resented or not, it is perfectly obvious to one in touch with folks that a physician cannot retain the confidence so essential to his work unless he maintains high ethical standards, both in his professional activities and in his private life. As a basic consideration, it ought to be as clear as the nose on a person's face that a man, no matter what his private morals are, will not entrust his wife or his child to the best scientist in the world in whose personal and professional morals he has no confidence. Does a physician stop to realize what we are handing over to his keeping when we accept his judgment regarding operations and medicines that are poisons when given improperly. A moment's consideration of the trust given, leads to the immediate conclusion that one has a right to expect that the trust is placed in worthy hands. Add to this fact two others, one that the confidence of the patient in the physician is most important for healing, and another that the physician cannot permanently retain the attitude which creates confidence without character, and you have some fairly serious considerations against the free and easy conceptions of moral responsibility, rather popular among some physicians, particularly of the "scientific school."

Another consideration regarding the medical profession that has been frequently in my mind, relates to the deeply ingrained understanding that no physician should criticise the work of another, no matter how bungling or costly. Now, that professional loyalty is surely worthy of much admiration and might advantageously be developed in other professions, noticeably in that of the preachers. The basic claim that the criticism in the long run hurts the profession more than the man against whom it is directed, is sound. Yet, cannot a real danger and a serious difficulty resulting from this loyalty be met in some way? That danger is that folks are poorly protected against the incompetent and noisy "back-clapper." The difficulty is that folks, particularly newcomers, have little

basis for choosing wisely their physicians or specialists. Someway these two serious disadvantages of a valuable loyalty should be met, and can be met without destroying that loyalty. According to present procedure folks are protected only from physicians guilty of the most flagrant mal-practice, and scarcely at all from the bungler who is a "good mixer."

It has frequently been a question in my mind why the physician, as an individual, has not been more interested in public questions and has not exerted more influence in deciding them. I am not referring to the political activities of Medical Associations at State Legislatures, which activities, it is commonly considered, have not been underdone. But the average physician in his local community does not exert the influence on public questions that he may well exert. Both his training and his experience give him exceptional knowledge of social needs and interest in meeting them. The dire results of bad housing, dearth of recreational facilities, prostitution, commercialized amusements, feeble-mindedness, under nourishment, overspeeding and long hours in industry, child labor, low wages, are brought home to the physician with unending emphasis. Why are not physicians, then, increasingly leaders in arousing public sentiment and in seeking remedies for these dangers?

One social need, in which physicians ought to be interested, heart and soul, is popular education, particularly in the public schools, regarding elementary facts of our body. Physiology ought to be the most interesting subject in the school, but as a matter of fact, is usually the most dull. The curiosity of the child regarding his physical equipment is such that it would seem impossible to teach it without the keenest interest, but that impossibility is regularly attained. Bizarre ignorance of folks regarding the simplest bodily functions, the acceptance of the preposterous claims of patent medicine advertisers, the confidence in strange old-wives tales and "remedies" are all indications of the need. A great part of the prejudice against the medical profession is due to stark ignorance, that brings unreasonable expectations, impatience at simpler suggestions, and refusal to accept advice that runs counter to prejudice. I honor the ethical standards of the medical profession in the matter of self-advancement, but more adequate education not merely regarding physiology is needed, but also regarding the aims and ideals of the medical profession.

Of course, the physician usually pleads the fact that he is "so busy" for negligence in these particulars. May one be pardoned if he dares suggest that much of this talk is bunk? I

doubt that physicians are busier than any other professional group bearing heavy burdens in the life of our civilization. Any man whose time is worth anything makes less money when he devotes some energy and time to help carry community responsibilities. Someone has to pay the price.

A physician needs to fight one hard battle that a preacher also needs to fight. He needs to be content with smaller financial returns than his business neighbors, to maintain frugal standards of personal and family living that helpfulness in his chosen work may be his desire and compensation. For a physician to be a money getter means that he must accept too many patients, refuse calls where pay is doubtful, depend on surface evidence in diagnosis and guesswork in treatment. A genuine physician needs to dare to be relatively poor and to be happy in his decision. People become desperately wearied of physicians and preachers who are always telling how much money they could have made if they had gone into business, and what terrible sacrifices they are making to continue in their profession. And they become, if possible, yet more wearied with the physician or the preacher who become "practical" and forgets ethics and ideals in his determination to "get ahead." *The curse of our industrial life is that men have frankly come to consider their work as merely an opportunity for making money rather than more particularly an opportunity to be helpful to God and to man. Shall we permit this curse to dominate our professions also? (Italics ours.—Ed.)*

DIAGNOSIS AND MANAGEMENT OF TABES DORSALIS

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Within the past decade, medical literature has contained numerous articles relative to the treatment of tertiary syphilis and many of these have been devoted solely to treatment of syphilis of the nervous system. It is obvious that one of the prime reasons for so much attention to this particular phase of the question is that in spite of the vigorous fight being waged against lues, neurosyphilis is on the increase. This increase is so pronounced that one feels that it cannot be accounted for by better diagnostic methods such as are afforded by blood and spinal fluid findings.

In placing the responsibility for this increase of neurosyphilis, one is confronted by varying and by no means conclusive statements of different writers. Fraser in a recent number of

*Cases taken from Neurology Clinic at University of Michigan.

the *American Journal of Syphilis* states that the responsibility rests with:

- (a) Tendency to treat primary syphilis "en masse"
- (b) Method of working to a mechanical time table.
- (c) The blindfolded method of working to and for a negative Wassermann.
- (d) Failure to interpret pathological findings in light of clinical picture.
- (e) Losing sight of importance of central nervous system as regards the patient's future.

He believes that modern early treatment fails in protecting the brain and spinal cord by rapidly sterilizing the general system and thus depriving the intrathecal system of its antibody supply. And further, that the incidence of neurosyphilis is influenced by such factors as:

- (a) The patient's power of resistance.
- (b) The natural resistance of the central nervous system and its inherent capacity for producing antibody.
- (c) The stage at which treatment is inaugurated.
- (d) The type of treatment employed.
- (e) The period over which treatment is carried out.
- (f) The type of organism responsible for the original infection.

In his summary he makes the important statement that individual cases should be treated on individual merits, rather than as one of a series.

McDonagh, in his recent text on venereal diseases, concurs in the opinion that neurosyphilis is on the increase, and that this increase is most marked in the number of meningeal cases and further, that some relationship exists between this increase and treatment. He believes that the nervous system has been subjected to greater strain than previously and he admits the possibility of a neuro-tropic strain of the organism. He points out that in certain tribes in Africa where 70 per cent of the natives have syphilis, neurosyphilis is uncommon because they have been badly treated early in the course of the disease and that a "period seldom arises in which the antibodies in the systemic part are absent; therefore what organisms there are in the nervous system are kept at bay." He makes it a rule not to treat a patient who persistently gives a positive Wassermann on the spinal fluid, that is, providing his previous treatment has been adequate. Such a reaction indicates, by his method of reasoning, the patient's protective capacity, which is likely to be damaged by further treatment. Finally, he concludes that no treatment, however perfect it may be, which is begun only after the commencement of the generalization of the spirochete, is an absolute guarantee of a cure and that for a cure to be guaranteed, the treatment must be prescribed before the organisms have reached the nervous system.

Relative to the treatment of syphilis before generalization has begun, Brown and Pearce

have performed some interesting experiments on rabbits which are significant. They injected rabbits' testicles with the spirochete and recovered the organisms later from the nearby lymph glands and also from the blood stream. They maintain that there is "probably no appreciable time during which a syphilitic infection can be regarded as confined to the focus of entry, but that, immediately infection takes place, the spirochetes began to multiply and invade the surrounding tissue, gaining access to both the lymphatics and the blood stream, and are widely distributed over the body even before an initial lesion can be detected."

However, it can be safely stated that in spite of early generalization and in spite of the fact that positive spinal fluid findings are found in large numbers in primary and secondary syphilis, the percentage of late neurosyphilis as compared to the total syphilitic incidence is small. Wile and Marshall believe that a large number of early cases are in the nature of a meningeal roseola, which is transitory in its clinical aspects.

If the opinion of these various writers is worthy of our consideration, we can only come to one conclusion and that is, that it is the duty of the medical profession to recognize neurosyphilis at the earliest period of its activity, and to proceed with the treatment and management of each case as an individual problem, rather than as one of a group to be handled in a routine standardized way. With this viewpoint in mind, our discussion will be limited to but one phase of the subject, tabes dorsalis. The diagnosis will be taken up only from the standpoint of symptomatology.

It is well to bear in mind that the essential lesion of tabes dorsalis is a degeneration of the central prolongations or fibers of the dorsal root ganglion cells, which fibers are destined for the nuclei gracilis and cuneatus and which compose the columns of Gall and Burdach. This same degeneration applies equally well to certain cranial nerves, as the glossopharyngeal auditory and trigeminal.

100 CASES

A survey has been made of 100 cases, 50 of which came to the hospital during 1911-12 and 13 and the remaining 50 during the years 1920-21, and up to April, 1922. Approximately 10 years intervenes as to the time of the entrance of each group. The number of males in the first group was 39 and the number of females, 11, as compared to 38 males and 12 males in the second group. Thus 23 per cent of the total number are females.

The average age at entrance in the two groups is practically identical, being 42 years in the first group and 43 years in the second. The oldest age at entrance in either group was 65 and the youngest was 27. It is a significant

fact that the period which had elapsed since the original infection was longer in the late group by three years than in the first group, being 17 years in one and 20 years in the other. And again, that the duration of the tabetic symptoms was only five years in the last group as compared to 5.4 years in the first group. Thus, although many cases in both groups had been inadequately treated in the primary and secondary stages, the verdict as to treatment, if rendered from his standpoint only, would seem to be in favor of the vigorous treatment regime of late years. However, since most of these cases were contracted 20 years ago, it is probable that very few of them had what we would now call adequate treatment in the early years of their infection, disregarding for the moment, the question as to the rapidity and kind of treatment administered.

Incidentally, one of the two cases whose age was 65 on entrance, had received no treatment whatsoever in the past 10 years and gave a history of slight improvement. A history of that type has probably been encountered by most practitioners at some time in their management of these cases.

A consideration of the occupation as a contributing factor in the cause of tabes is perhaps more important in this disease than in other diseases of the nervous system. It is a quite commonly accepted fact that the parts of the body used most are apt to be the parts affected in this disease. Practically all the occupations listed are those in which the patients are on their feet during their working hours. Comparisons were made in certain of these occupations, considering not so much the number of cases as the percentages which they represented of the total number of that occupation coming to the hospital during those years. It was found that the total cases in farmers numbered 9 or .30 per cent, while railroad employes numbered 6, or 2.66 per cent of that particular class coming to the hospital. Merchants numbered 4, or 3.03 per cent, the highest in the group. Laborers, so classified, numbered 13, but only represented .45 per cent of their total entrance number. Machinists numbered 7, or .65 per cent of that class. Other occupations were too few in number to be of any particular significance. Thus it can be seen that the percentage of occurrence in railroad employes and merchants is relatively much higher, eight and ten times respectively, than in farmers. In view of recent compensation acts passed by various states, including our own, and in recognition of the fact that trauma is known to be an inciting factor in many cases of tabes, the relative frequency of tabes, among railroad employes particularly, is of some importance from a medico-legal viewpoint.

It has become a well recognized fact that a negative history of previous infection with syphilis is of minor importance from a diagnostic point of view. In 30 of our cases, no history of venereal diseases was taken, but in the remaining 70, exactly 35, or 50 per cent admitted primary infection, while both syphilis and gonorrhoea were admitted in 10 cases, thus bringing the total positive syphilitic histories to about 65 per cent. Gonorrhoea only, was admitted in 12 cases, syphilis in the husband was noted in two cases, while the remaining patients denied any venereal infection.

The marital history is of no little significance, in that it may, especially in the female patient, give one the first clue as to the true nature of the disease. Seventy-four of these 100 cases had been or were married and of that number, there was a history of sterility, miscarriages or stillborn children in 32 cases (43 per cent.) Just how many of those cases can be accounted for by luetic infection is impossible to state, but the fact that the percentage is that high, necessitates making a marital history a routine part of every examination. Stokes and Bremer, in a recent publication, found practically the same percentage in the marital histories of railroad men and farmers.

The symptoms complained of by these tabetic patients on their entrance to the hospital was so variable as to be of extreme interest. As would be surmised, pain was the most frequent symptom, being recorded in 80 per cent of the cases and having been present on an average of five years before the patient came to the hospital. The character of the pain was described as "sharp-shooting," "stabbing," or "lightning like" in 65 cases. This is the type of pain usually thought of in connection with tabes, but other cases used such descriptive terms as "severe but not shooting," "dull," "cramping," "burning and painful" and "band-like." Moreover, several cases complained of different types of pain in different parts of the body. The most frequent location of "sharp-shooting" pains was in the lower extremities, being noted in 61 per cent of the cases. Pain in the epigastrium and chest occurred with about the same frequency, 8 and 11 per cent respectively, while pain in the arms occurred in only 7 per cent of the cases. As one would expect with a disease in which any segment of the cord might be involved, pain in various other parts of the body as the hands, fingers, shoulders, axilla, back, abdomen, jaws, bladder, ankles and toes was also mentioned. In over one-fifth of the cases, the symptom was distinctly worse at night. It is an interesting observation that a history of headaches was obtained in but six cases.

Probably there is no phase of this subject

that needs more emphasis than that concerning the necessity for eye examinations, including ophthalmoscopic findings. Often these patients approach the physician complaining of failing vision and the only possibility of helping the patient rests in an early diagnosis and proper treatment. Twenty-three cases complained of disturbance of vision, and there was a history of diplopia in nine cases, ptosis in four, including one case of balance ptosis, and complete blindness in five others. During the past year, three cases of neuro-retinitis have been conservatively treated in the University Clinic with mercury and iodides, with the result that the vision has remained the same in two cases and a slight improvement was noted in the third case. It has been the custom of the clinic to use no arsenical preparation in cases of neuro-retinitis or beginning optic atrophy and it is believed that these cases have a more favorable prognosis as a result of the procedure.

Perhaps one of the most perplexing and trying problems in the practice of medicine is that of the management of a gastric crisis in tabes. In fact, one can often run the gamut of remedies, even resorting to posterior rhizotomy, and still not relieve the patient from the pain and vomiting of these attacks. There was a history of attacks of nausea and vomiting at some time during their illness in 26 of these cases, slightly over one-fourth of the total. Pain was an additional symptom in 12 cases, and was so severe as to be relieved only by morphin in two patients. The nausea of tabes is usually not relieved by vomiting, a differential diagnostic point which must be thought of in patients complaining of these symptoms.

It has been the usual routine in the management of these attacks to start in with the administration of the simpler drugs as salicylic acid, aspirin, phenacetin or pyramidon. McFarland in a recent number of the American Medical Association Journal reports good results from the use of chloral hydrate and sodium bromide in doses of 40 grains each, given per rectum. This method has been tried on only one case in the University Clinic, but without beneficial results. We have also used paravertebral injections of antipyrin in 5 grain doses in solution in the region of the seventh, eighth and ninth dorsal vertebrae with temporary relief from the attacks in certain instances. Theoretically, one aims to inject the region of the dorsal ganglia, which procedure is carried out with more success after practice on a cadaver. Everyone agrees that morphin is the drug of last resort and if that fails, operative procedures, as intradural injections of weak solutions (.002) of cocaine or posterior rhizotomy should be considered.

Intestinal symptoms, aside from the gastric,

were not prominent or frequent and at the same time, it was difficult to say how often they were due to the tabes. Severe constipation was mentioned six times, attacks of diarrhoea three times, and incontinence of bowel movements twice.

The bladder symptoms, however, were more definite and also more important from a diagnostic standpoint, since they are frequently among the early symptoms. Thirty-five cases belonged in this class, 22 of which had incontinence and 12 either difficulty in voiding or complete retention. One case had painful urination.

A history of impotence was recorded in but 4 cases and in one of the patients, sexual ability returned after treatment.

A symptom ranking in importance with pain from a patient's viewpoint was the ataxia. "Difficulty in walking" was the chief complaint in 33 cases. Ataxia of the hands or arms is not nearly so commonly complained of. This difficulty in walking is particularly disturbing to the ordinary patient's peace of mind since so much publicity has been given to the cause of this disease among lay people. Hence, exercises of the Frenkel type are particularly useful in the arrested cases.

Parasthesias, of which the most common was numbness, was also a frequent and annoying symptom and usually preceded the pain and ataxia in appearance and persisted for an indefinite period of time.

Weakness, either general or localized to the arms, legs, or knees was not an uncommon symptom and often the only one which the patient mentioned at the beginning of their examination. A feeling of stiffness in the knees and legs was mentioned by two patients. Ulcers on the toes was a chief complaint in two cases, and swollen, but not painful joints in two cases (Charcot joints).

Too much emphasis cannot be given to the importance of spinal fluid findings in these patients. In 53 cases, both the blood and spinal fluid Wasserman was done and in 13 cases, or about one-fourth of the total, the blood Wasserman was negative and the spinal fluid Wasserman was positive. It must be remembered in this connection, that the reverse findings, the more unusual, may occur. That happened in but three cases. The diagnosis of tabes was made in seven cases where both blood and spinal fluid Wassermans were negative.

It has been the method of the clinic in the treatment of these cases to not be influenced by or to work for a negative Wassermann on either the blood or the spinal fluid. It is believed that often a positive Wassermann on either, is, in certain instances a favorable rather than an unfavorable prognostic sign.

So few cases were treated in the first groups of 50 that it is not necessary to mention them, but in the last group of 50 cases, 31 had been treated either in the clinic or a definite history of treatment elsewhere was obtained. Eighteen of these 31 cases showed definite improvement, 10 remained stationery, and 3 were definitely worse. After a rather careful perusal of the various methods of treatment on these patients, one comes to the conclusion that there is no definite outlined manner of medicinal treatment which will successfully answer the purpose in tabes. Each case is a definite problem in itself and our best judgment as to a safe procedure must be used without giving much regard to what happens to a Wassermann on either the blood or spinal fluid.

We find cases which have been treated the same in the improved, the stationery and the definitely worse groups. For instance, in 10 of the 18 improved cases, the routine treatment in the University Clinic was used. This consisted of 30 daily intramuscular injections of mercury succinimide in one-fifth grain doses and in addition, 3 to 4 intradurals of one-seventy-fifth grain of mercury succinimide in 1 c.c. of triple distilled water at weekly intervals. This same treatment was given to the three cases which became definitely worse. Five patients had mercury succinimide given intramuscularly as their only treatment and showed definite improvement. One patient came to the clinic and gave a history of having been advised by his doctor 12 years previously to take no treatment at all, and he claimed to have improved slightly since the initial symptoms began. The other extreme in treatment methods was shown in the report of one case who had taken a total of 265 mercury rubs, 15 mercury injections, and 13 intradural salvarsans with but slight improvement.

Salvarsan had been given in a number of these cases previous to their entrance to the hospital and usually this was preceded or followed by mercury in some form. Six of the 10 cases which did not improve under treatment and which were advised on their entrance to have no further treatment for the present, at least, were cases which had received salvarsan in large quantities. Four of these six cases had been given both intradural and intravenous salvarsan. On the other hand, 5 of the 18 improved cases gave a history of being previously treated with intravenous salvarsan.

No definite conclusions as to treatment can be drawn from so small a group of cases, but it is our opinion that the best prognosis is to be expected in those cases which have not been overtreated or too rapidly treated with arsenical preparations. Periods of rest of a month or two between each series of 15 or 30 daily mer-

cury intramuscular injections were advised in all cases.

If the proper co-operation was obtained from the patient, instruction was given in some of the simpler Frenkel exercises, these to be practiced at home. This is against the advice of the originator of these exercises, who claims success for them only when given in an institution under proper supervision and instruction. Where these were followed out with some intelligence on the part of the patient, a marked improvement in the gait was noticed.

The writer wishes to acknowledge thanks to Dr. C. D. Camp for the privilege of reporting these cases and for his helpful criticism of this paper.

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DISCUSSION

DR. WILLIAM H. RILEY, Battle Creek: Dr. Currier has brought to our attention some very important things in reference to syphilis of the nervous system. Whether syphilis of the nervous system is on the increase or not I think is still an open question.

At a recent meeting of neurologists, I heard quite a number express their opinion that they had not had many cases of tabes to treat recently as they had formerly before the introduction of the newer methods of treating syphilis, so that opinions do not seem to be uniform as to whether or not syphilis of the nervous system is on the increase. It is very important for us, I think, to recognize the fact brought out in the paper of the mobilization of the spirochete through the nervous system very early after the infection, that is, in the first and second stages of the disease. It is quite important for us to recognize that, although the spirochetes may be present within the nervous system, they may remain there for many years without doing any serious harm.

We know such diseases as tabes, for instance, usually begins about the tenth, fifteenth, or thirty-fifth years after the original infection, and evidently the spirochete has been present in the nervous system during many years without doing any harm.

Dr. Warthin of Ann Arbor, in his reports on syphilis of the heart, has brought out the fact that the spirochete may remain between the muscle fibers or between the muscle cells of the heart and remain there without doing any harm. I think very much in the same way the spirochete may remain within the nervous system and do little or no harm. While it is important for us to recognize that fact, it is quite true, however, that many of these cases of tabes go along for many years after the appearance of clinical symptoms before they are properly diagnosed.

The doctor in his paper referred to a report of McDonough, where he refers to certain sections of Africa in which there is a large percentage of the inhabitants who have syphilis, yet very few of

them have syphilis of the nervous system, and he draws the conclusion the reason they do not have syphilis of the nervous system is because they have not been treated for syphilis. The antibodies in the system have not been destroyed by the antisyphilitic treatment.

In contrast to that statement, I was interested in reading an article recently in the *American Journal of the Medical Sciences* (May number, I think,) by Dr. Stahl, who claimed it is estimated that, according to his statement, 25 per cent of the cases that were poorly treated in the early stage of syphilis or early stages have syphilis of the nervous system; whereas, of those who have been well treated, only 3 per cent of the syphilitics developed syphilis of the nervous system. So here again there seems to be a difference of opinion on this point.

The essayist has referred to age, and the time of entrance into the hospital. I think perhaps it might be more valuable if we found the age at which the disease began, because this is a progressive disease, continuing for many years, and the time at which the disease begins would be more valuable than the time at which the patient enters the hospital.

With reference to sex, the doctor tells us that 23 of his cases were females. This proportion, I think, is large. While I cannot give you any definite percentage, I am sure the percentage I have seen in females is much less. In the literature generally we are told that there are ten cases of tabes in man to one in woman, and probably about the same proportion exists in men and women having syphilis. There are ten times as many cases of syphilis in men as there are in women.

With reference to occupation, the essayist has brought out the point that those who are on their feet are more liable to the disease. This is in harmony with the teaching of Eppinger, who taught that syphilis or tabes might be due to over-activity of the sensory neurones in the lower part of the cord in individuals who use their legs excessively, the so-called fatigue theory, where the nervous system becomes fatigued. There are other causes we should recognize as causes of tabes besides syphilis.

Since the discovery of the spirochete in the spinal cord in cases of tabes we have focused our attention upon the syphilitic side of the disease and treated it as a syphilitic disease, which, of course, is correct, but we have overlooked, as the doctor emphasized in his paper, the importance of treating the patient and the importance of recognizing other factors besides syphilis in causing the disease. Why is it that a man who has tabes now has carried the spirochete in his spinal cord for ten or fifteen years without doing any harm? Why has it not done him harm before? That cannot be explained very definitely, but it may be noticed in many of these cases the disease comes on as a result of fatigue and excessive alcoholic use and after attacks of acute infection, and as the doctor brought out, after injury and other things. Anything that tends to reduce the vitality of the patient in any way opens up the way for the spirochete to become active. I would like to emphasize that side of the cause, and that we must consider other things besides the spirochete.

With reference to the symptoms, I understand the doctor's paper has dealt with the symptoms of which the patient complained. He has not told us anything about the objective signs, although, of course, I will confine my remarks to that side of the clinical picture. Pains are the most frequent, and as the doctor said, I have observed they are more troublesome at night. I have also observed that they come in attacks and the attacks precede an atmospheric storm. A tabetic patient will tell you when a storm is coming because he has a stormy pain in his leg first. These pains usually

appear in the earlier stage of the disease and continue for a greater or less length of time.

It is important to remember the disappearance of pain does not necessarily mean the patient is getting better. When the pains are getting better the patient gets worse. Pain is an expression of an irritating symptom. When the nerves become degenerated the patient has no pain, but he is much worse than when he had the pain.

There is a class of cases of the neurotic form where the pains continue for years. I remember one case under my observation where the patient had pains for 12 years, and another patient for 18 years. In these cases of neurotic form the other symptoms develop very slowly. Often in these cases we have a considerable increase or decrease of the knee jerks. We have an increased knee jerk, and it is well to remember that loss of knee jerk does not always mean tabes, and you may have an increased knee jerk in cases of tabes. This increased knee jerk in my opinion in those cases is due to irritation of the sensory posterior nerve roots.

The parasthesias the doctor referred to are rather light and are apt to be passed by by the physician because they do not seem to be very troublesome, but where we have a patient in whom these parasthesias are persisting, they ought to mean something to us, and our patient is in need of a careful examination. When a man comes into the office and tells about pains in his legs, and tells us that he has rheumatism in his legs, if we have not time to examine the nerves at that moment, we can make one or two little tests which will help us out. If you tap his knee and see he has a knee jerk, that helps out. If the knee jerk is lost, it will mean something. If you take a flashlight and test the pupils and find they do not contract, you have two things you can pick up in a moment's time that will tell you a good deal about the patient. You can do that in a minute or two and it will help you very much.

With reference to the gastric crises, they are very troublesome, as the doctor says. They usually come on early in the disease; they come on suddenly and usually terminate suddenly. I have seen cases that go on for weeks. One man had them for a period of weeks and could not retain his food. He lost 40 pounds in weight in a few weeks. The crisis came on just as suddenly as it sometimes stops. He soon regained his weight.

Another symptom the doctor did not mention in his paper was nerve deafness which is quite early in these cases. These patients will apply to the doctor for deafness, and we find very often that bone conduction is either very much reduced or absent, and that is found very early in the disease.

Another early symptom should be emphasized, and that is the retention of urine. Sometimes these men will go about and go a long while without emptying the bladder in the early stage of the disease; they pride themselves because they can go so long without emptying the bladder. They really have retention and if the bladder is examined with a cystoscope you will find trabeculation in the muscular wall of the bladder, not due to enlarged prostate gland, but due to tabes. The patient may have no pain; his knee jerks may be normal, and about the only thing he has is a bladder which is very greatly distended and which he is not able to empty.

Another early symptom I think the doctor did not mention in his paper is tachycardia. Sometimes these people complain of a very rapid pulse and they go to a doctor for that; they have a pulse of 90 or more, which is constantly rapid all the time, and probably due to irritation of the fibers of the sympathetic nervous system.

I have observed in many of these cases that these

people lose weight when the disease begins. Here again it is interesting to note they carry the spirochete around in their bodies for so many years, when it becomes active, and then they lose weight. They look cachectic; they have a pale yellow appearance. They come to you because of losing flesh, and they lose anywhere from 10 to 30 pounds of flesh in a little while in the early stage of the disease.

With reference to the treatment, I think we may divide it into three heads. First of all, treating syphilis. Tabes is a syphilitic disease of the nervous system. Second, treating the patient or building up his resistance against the invasion of the spirochete, and third, treating the symptoms as they arise.

Under this head of treatment, I would like to emphasize particularly the treatment of the patient. Dr. Currier has already intimated or pointed out the importance of that, but I would like to emphasize it, treating the patient, not getting our attention fixed on the spirochete and thinking of nothing else. If the patient has tabes, we should look for infection. The bowels should have attention. These patients should go on the rest cure. In treating the pains the main feature is that the patient will suffer much less from pain if he is in bed than when he is up and around. The patient should wear heavy underclothing during the winter months and take pains to protect himself against cold. You can instruct him about avoiding fatigue and to look carefully after his alimentary tract and after his body generally. A great deal can be done for the pain in addition to putting him to bed. An arc light applied along the spinal column will give relief; sometimes diathermy, the current being passed directly through the spinal column, through the abdomen, will give relief. Sometimes a positive galvanic current applied in that way will give relief. I am not claiming this will relieve every case, but it will help. A hot blanket, hot packs to the hip and legs will give relief from pain.

Most of these people have a hypotonia and to overcome that we put them through exercises and also get the benefit of increasing their co-ordination by re-educational movements, such as are given under the Fraenkel system. By exercises, by rest for a time, and by re-educational exercises, you can do very much for your patients in overcoming the ataxia in the early stages.

There are certain cases of this disease where the ataxia comes on early, and those are the cases you can help by these re-educational movements and also tone up the muscles by the use of sinusoidal electricity. This general treatment of the patient is the part that I would like to emphasize here. Treatment of the syphilis is, of course, important, but I think the general care of the patient is often overlooked. I think I can say this: I have dealt with patients for a great many years before we had the newer methods, before tabes was recognized as a syphilitic disease, and I have used these remedies I have mentioned—hydrotherapy, exercise, rest, massage, looking after the patient as a whole. In recent years we have come to use antisyphilitic remedies in these cases, and I want to say to you, I cannot see any wonderful results in these cases of tabes in later years. I cannot see that they are very much better by the use of antisyphilitic remedies than they were years ago before these remedies were introduced. I am willing to grant that in certain cases we have seen very excellent results from the antisyphilitic remedies. But I am trying to point out the difference in the two kinds in treating these cases, one the antisyphilitic treatment, and the difference in the result is not very

much in favor of our antisyphilitic remedies in this group of cases. In saying that I do not wish to discontinue the use of antisyphilitic remedies. We use them thoroughly in all the different ways, intravenously, intramuscularly and intraspinally, and we have given our cases the full benefit of it, but I cannot report to you any wonderful results from it. The cases of syphilis of the nervous system that are benefited most by these remedies are those where the connective tissue part of the nervous system is affected, that is, so-called cerebrospinal syphilis, but in this disease the affection probably begins as a meningitis, and in cases where we have persistent pain I have observed very good results from the use of antisyphilitic remedies. But it is well to remember the fact that when we have acute softening of the brain as a result of closing up the arteries from a syphilitic endarteritis, as in cerebrospinal syphilis or a gumma pressing on a nerve, cutting off nerve fibers, so that they undergo degeneration, or in tabes a secondary degeneration in the posterior columns of the spinal cord, where the fibers and nerve tissue are destroyed, in all these conditions antisyphilitic remedies will not do them any good, but we may be able to do for patients who are suffering in this way a great deal of good in overcoming their meningitis or in preventing further destruction of nerve tissue, and the patient should have the benefit of it. We may get into the habit of routine and not connect up the mental picture of our pathology and hitch it up right with the clinical symptoms. We sometimes treat symptoms or signs that can never be restored. It does not hurt a man if his pupillary reflex or knee jerk never returns, and it is unnecessary for him to take a long course of treatment for regaining some symptoms of that sort which can never be regained.

DR. ROBERT ROSEN, Detroit: I do not wish to discuss this paper, but I desire to ask if any of the members have had any experience with Schlessinger's solution in gastric crises in which we know most drugs are useless. Barker is the one in this country who suggested it, and it is composed of scopolamin, hydrobromin, and morphin muriate. In 1918 I had occasion to test it on a physician who had a renal colic. He could not stand morphin, and being the only one in the house I used this solution with wonderful immediate results. In Detroit recently another physician who had had one grain of morphin without any result took ten minims of this solution which quieted him down. In gastric crises it has given excellent results. It seems to me, if it can relieve pain, it can relieve pain in other conditions. I have recommended its use to physicians in malignant diseases over continuous and long periods of time without any untoward effects.

DR. C. D. CAMP, Ann Arbor: Dr. Currier and Dr. Riley have referred to the indiscriminate and routine use of antisyphilitic remedies in these cases of tabes, and I believe they have done more harm than good. Furthermore, I believe the increased amount of nervous symptoms which we see at the present time is due to the harmful, excessive and indiscriminate use of strong antisyphilitic remedies.

There is one other point I want to speak of, and that is the frequency of tabes in women. As a matter of fact, my statistics show that 40 per cent of my tabetic patients have been women. I believe that one reason, perhaps, for the less frequent instances of tabes in women is because it is rather less suspected in women patients. Frequently women patients have the disease with somewhat different symptoms and pathology than male patients.

DR. CURRIER: I have never had occasion to use Schlessinger's solution.

THE OBLIGATIONS OF DOCTORS

By A. P. JOHNSON
GRAND RAPIDS, MICH.

There is always associated with any new effort that sense of insecurity which one feels when treading on thin ice. Particularly is this true when a layman states his views to the scientist. When the editor of this journal asked me to write about what "doctors ought to do," he either planned on testing to the breaking point the tensile strength of my intellect, or he hoped to furnish you with a new form of amusement, to "lighten up the publication," as we say in editorial vernacular. But I shall proceed on the premise of honesty. Having nothing to fear of ethics, I can afford to be ruthlessly honest with myself. I am not a doctor. I am not a scientist. My business has been chiefly to record the actions of others for others. In such a business one stands at the side of the road, sees the caravan go by, and forms opinions accordingly. These opinions, as they concern the physician, I shall set down according to my observations and let the chips fly where they will.

It is customary in all criticism, whether of literature or art or in a scientific analysis, to preface it with favorable comment. That is, it is human to prepare a soft spot on which to fall. But to conserve my space, I shall set that aside. To review the service of the medical profession to the society of mankind would be sophomoric and meaningless. Let us credit it with being responsible for 50 per cent of present-day human happiness. Let us rather, like Alexander, cry over the lack of future fields to conquer. The past is good guidance to live by, but unnecessary baggage to carry along.

And that is my first criticism of the medical profession. Many, by far too many, of its followers are living in the past. They are living in a narrow past, a small, intrenched gloomy professional medievalism, which blurs their vision and restricts their freedom of action. With all the accumulated glory of medicine and medical research, with the almost incomprehensible advancement of science as applying to the saving and prolongation of life, to relief to suffering and physical comfort, the doctor himself seems to be unable to throw off the chronic "egoitis" that keeps him enslaved to himself and in fear of his neighbor.

The modern-day doctor is acrophobic. He is always afraid he is going to fall down somewhere, even if he is walking on the grass. Either that, or he fears that some other doctor is going to fall on top of him. He is still the professional recluse who, within himself, thinks that his profession is something akin to the unknown. He mistrusts not only himself and his

associates, but he has little or no faith in the intelligence of the public.

Am I stating general facts? Yes, I have come in close contact with the profession—almost professional contact—for 25 years and I have not found one man who, somewhere in his makeup, did not harbor something of the mysterious. It crops out somewhere, in the operating room, in a poker game, in the smoking compartment of a Pullman, and not infrequently in his home. He is either an Ishmaelite who is always being persecuted, or he is ne plus ultra with particular emphasis on the "plus." Somewhere along the line, his contact with abnormalities and subnormalities robs him of his boyishness and bouyancy, two traits which Freud, in less understandable terms, says are necessary to "unity in male characteristics." The whole trend of the human species is for freedom. When Adam and Eve subscribed to the fig leaf as a necessary adornment, they accepted the first restriction of civilization. And they have been pressing against that restriction ever since. Somewhere, in the economic life of the doctor, he is cramped. He doesn't get enough natural freedom, enough air, enough of the bigness of life. He hasn't been able to correlate his business with the business of all mankind. He is too much of a doctor and not enough human being. And he forms his views, his theories and his ethics accordingly.

By this time I shall, no doubt, have alienated all your friendship, respect and good will. But you have asked for MY opinion. I may not be right, I am only a unit with one set of channels in which my opinions are formed. I say these things because I think I can understand the psychological reasons for them. The man would be superhuman who could spend a lifetime in the treatment of disease, in dissecting cadavers, in analysis of bacteria, in checking every thought and move where life is concerned; as a custodian of family relations and secrets, meeting and dealing with both physical and mental disintegration, without showing effects at variance with the normalities of those who go through life with less responsibility. And here I would like to make this reservation: My views are not based upon the same reasoning that the average patient uses when he alternately praises or condemns his doctor. In this dissertation, the individual doctor does not interest me. I take it that every doctor, or nearly every doctor, does the best he can. I am here not interested in the individual doctor's ability or workmanship. I think most of them are good men and women. And I do not mean, by charging him with "mysteriousness" and "egoitis" to impugn his good fellowship. Most doctors I have met have been "damn" good fellows, if I may use the term. But they are al-

ways at war with themselves or with some hallucination. They confuse their calling with their natural lives, the lives they would live if they were in any other business. In other words, the doctor has not "placed himself" in the order of things. His orientation needs adjustment. Society is suspicious of him because it does not understand him. No wonder. He doesn't understand himself.

But what has all this to do with "What more can the doctors do?" My reader at this point is ready to call my attention to accomplishment, perhaps on the theory that all is well that ends well. "Look at the results," he will say.

Well, what are the results?

Improvement in general health. Prevention. More lives saved. Curtailed death rate. Lower infant mortality. Great educational campaigns. Hygeia, and all that.

Immeasurably valuable. Phenomenal. There is no writer on earth who can find adjectives that would do justice to the good which the doctors individually and collectively have done for mankind.

But is that the end? Is it what is called in science the *nth* product? Does the postponement of death mean anything to the average man? Death, as signifying the end of living, has never meant anything to me, either as it concerned myself or my fellow men. I have known many men and women who were dead long before their obituary notices called my attention to it. A funeral is merely the occasion upon which the public takes official notice of the passing of a life. The owner of that life might have been dead a quarter of a century as far as his usefulness to society was concerned.

Here is the greatest field for the doctor's services and a field in which he will not succeed until he finds himself. No organization, or collective effort, or propaganda, by and of itself, will bring about right living, healthful living, good citizenship, or useful lives. These things must come from contact—live, pulsating human contact. The common man must find a common inspiration. Most of his preachers have failed because they have not been "common" enough. They have lived too much in the ethereal, as the doctor lives too much in the ethical.

My family doctor is 90 per cent a real man and 10 per cent doctor, and at that I think I am stretching his professional ability. In fact, his professional talents haven't interested me much. I left him once because I didn't think he was doctor enough, but I had to go back to him.

That is what your profession needs, ladies and gentlemen. It needs public confidence. You have long been a necessary evil. You have been rated with your pills and laxatives and

scalpels and sutures and forced family confessions. You have smelled too much of ether and not enough of cologne—figuratively speaking, of course. And you have aided this impression by your childish ethics and narrow professional effeminacy. In the operating room, or at consultations and at the bedside you "Doctor" one another with the grace of knights errant, who, upon the first opportunity (in a less civilized surrounding) would not hesitate to insert the longest operating blade in their possession between the other fellow's fifth and sixth ribs. Then, when you get together at conventions, or by yourselves on the golf links—well, suppose we leave that until some other time.

The public does not know what to make of that. In all other professions there is more naturalness, more openness, more universal confidence or obvious suspicion. And while the public feels that way, you are retarded in your work. I do not mean to gainsay the need of professional respect. We all respect a good judge, or a good lawyer, or carpenter, or whatever a man may be, but if we are constrained to speculate on his moods, on a lot of intricacies in his business that affect his comradeship, we become suspicious and ill at ease. Neither do I think it necessary for a doctor to chum with all his patients. That might become complicating, especially under our social restrictions. But as the wise employer today gains and holds his workers' respect by virtue of his own personality, so can the medical profession attain greater results through increased confidence and greater personal contact.

And to what purpose?

I said something about being a long time dead before your funeral. The present trend of living is encouraging that sort of thing. I am not so sure that our hygienic pro-sanitary and predigested lives are essentially the way nature intended them. It strikes me that much of it is a refined process of emasculation. All forms of life, dependent upon their virility, come into being and survive through struggle. Take away the struggle, the effort, the zest of life and you take away life itself. The perfect man cannot survive unless he has something to do. After you have removed all foci of infection and there is no more cause of ailment; after you have found a panacea for all human ills, then what? Is that the *nth* product?

Not unless you teach that life how to preserve itself. And as your profession is now constituted no one is going to seek your services when he is well. That's unfortunate, but it is true. And here, it seems, lies your great mission. The business of "curing ills" is not of itself an exhilarating undertaking. But

the business of preventing ills is not only one of absorbing interest, but logically a very essential one.

Yes, I know the profession as a whole, en masse, collectively and through its institutions and societies, is doing that, but the "doctor" has not fitted himself into that plan as an individual or in groups. History records more than drifts. It records the achievement of individuals, whose heads have towered over the crowd. There must be individual attraction to gain individual results.

Some sort of individual leadership must come to the people of this earth. We thought for a few centuries that we had that leadership in religion. But we confused the gospel of the Nazarene with clique, creed, dogma and theology. Retaining still the inspiration of Christ, we must add to it the examples of nature as laid down, in this instance, in the knowledge of the human mind and body. We must have more light, more real light, and less superficial theory. The doctor can furnish that. He has the real opportunity of modern times.

I believe the doctor errs in paying so little attention to fundamentals. You will ask, "What do you mean by 'fundamentals'?"

I mean this: Medicine is a specialty. Economics, for instance, is a fundamental. I believe the modern doctor pays too much attention to his specialty and not enough to general knowledge. He does not sound the tuning fork of public opinion. The doctor worships too much at the altar of science, and the effect, I am sorry to say, is an increasing mistrust of the profession. In every legislature, during the past year, there has been active propaganda which on the face of it has been "to protect the medical profession." I am one of the few who know the intent of this propaganda. It is not to protect the medical profession, it is to protect the public. It is obvious to me if some people were allowed to practice medicine, or treat human beings, there would be much more work for the doctors. But does the general public know that? It does not. Why not? Because the sponsors for that propaganda, namely the doctors, have not the public's "economic" confidence. After their patients have sacrificed a set of tonsils, or an appendix, or what not, on the said altar of science, their doctors' interest wanes. He doesn't follow that patient into his or her economic life. He doesn't study the patient's viewpoint.

I know of a hospital that had for the purpose of its organization the highest and loftiest motives. It has now all that money and means can procure to make it the best and foremost in scientific good. It performs a great amount of charity work year after year. And yet, only those whose social prestige entitles them to an

opinion have anything good to say about it. All its honest work, past and present, is refuted in the sense of it being an humanitarian institution because it cannot get in touch or in tune with the common man and woman.

This hospital charges uniformly what other hospitals charge "for being sick." But the men who conduct it, the physicians who dominate it, are deities in the Olympus of the medical profession. It is THEIR temple. "Around you," they say, "I draw the magic circle of science. One step within that circle and we will bring to you all the marvels for which our profession is renowned." And the marvels are usually forthcoming according to the size of the patient's pocketbook.

It is this spirit, an unconsciously mistaken spirit, among the doctors, that has caused the public and its governmental representatives to clamor for socialistic measures in the treatment of human ills. It is this spirit, this "holier than thou appearance of things," that encourages the imposition of cults and fantasies in coping with the frailties of mankind. The doctor must not forget that there is in all economic procedure a strong leaning toward fanciful equality. Everything is being "socialized" from the family cat to the number of B. M.s you are entitled to in the course of a day. Sooner or later, the doctor will reach the fork in his road. He cannot forever fight patent medicines, fly-by-night practitioners, cult treatments and speculative theories in medical practice. He cannot forever convince the public that he is not grinding his own ax when he maintains that to be entrusted with a human life, the man or woman assuming that responsibility must know something about the human body. He must not forget that the combined public will must have its run. But he can, by looking beyond his operating table, his therapeutic thermometer or his prescription blank, peer into the great, moving caravan of human beings as it is seen from the heights, or at the side of the road. There he will get the proper perspective. He needs more of the telescope and less of the microscope. His renown as a specialist must be tempered with a common understanding of common things and common people. Only through such a viewpoint can he wrench himself out of himself and into the big world, the great, though perhaps unknown purpose of it all. He must put the same sweet coating on his life and his contact that he puts on his pills when they are bitter and hard to take. He must mould "public" opinion, not "legislative" opinion. If he educates the public, that education will reflect in its servants. And he must begin quickly before his great work becomes a football for whosoever chooses to say, "Come to me and I'll cure you."

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**Report Malpractice Threats
Immediately to Doctor F. B.
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Editorials

ANNUAL MEETING

Grand Rapids—Sept. 11, 12 and 13th.

Mark this on your calendar and plan to attend this annual meeting. The August issue will contain the completed program. This program will be of unusual interest, and will be on subjects by speakers you cannot afford to miss hearing. On the side there will be arranged enjoyable entertainment features. There will be ample hotel accommodations, but it is imperative that you write for reservations. Good roads from every part of the state lead to Grand Rapids. Ample garage facilities will be available. Grand Rapids doctors urge your attendance and assure you every hospitality.

AS OTHERS SEE US

A few months ago we sent the following letter to a number of representative laymen:

Dear Sir:

With the single thought of securing the opinion of thinking public men I am writing to invite you

to send me an article on the medical profession for publication in our State Medical Journal.

I believe that it is well for any group or profession to now and then stop and give time and thought to introspective surveys. To look at themselves through the eyes of men outside their circle. To consider their public relations as revealed by the opinions and judgment of representative individuals.

With that in view, will you not send me two or three thousand words of constructive criticism and constructive recommendations of the medical profession? I am sure that the profession will not only appreciate, but will also profit by your contribution.

In this issue we are publishing several of the replies received. Read them and then ponder. We want to give you some insight as to how thinking laymen view us and our work. There is need for us to concern ourselves as to how others appraise us. While busy with our science, we must find time to take unto ourselves the responsibility we owe to the people. So read and ponder. Then govern your acts accordingly.

WORDS OF WISDOM FROM THE PINES

The snows have melted up north. With summer's breezes we again welcome the "Voice from the Jackpines"—a fellow member, who in his inimicable way speaks out plainly and to the point. His reflections merit reading and invite serious thought.—Editor.

* * *

That was a horrible catastrophe in North Carolina a few days ago, yet we have scores of auditoriums in Michigan that are much more hazardous than that one, and high salaried state officials are lecturing in them to large audiences every day, and upon public health, too.

Say, now, if it is planned that every mother in Michigan shall have free medical and nursing attendance, how is it that the town and county boards turn down every bill that physicians and nurses send in for caring for the really destitute? Surely, that would avoid a lot of overhead charges. Or is a thing better for the public when it is accompanied by the maximum of long distance graft?

A physician tells me that there is a woman upon the platform teaching how to have the dear babies, that has had five abortions. All home brew, too.

It seems folly for physicians to buy medical books when almost every paper contains for the laity articles claiming to cover both diagnosis and treatment.

"And so you changed doctors, I thought Dr. X was taking a great interest in your case." "Yes, but I got tired of the interest and hired this man to go after the principal."

Which makes us think of the brainy doctor who thinks more of justifying his theories than of curing his patient.

Did you get that free sample of Nujol? My neighbor did. This may be an indication of what is coming when Standard Oil Foundations dominate our educational institutions.

I believe in research work. That goat gland stuff may be all right, but if I were the patient I would not like to be the goat.

No wonder the automobile business is threatened and tires are so expensive. The sale of rubber catheters is said to be unprecedented.

Forty-five years' experience in medicine has proven to me that there are locations where a physician will be ostracized if he does not cater to the illegitimate practices of some of the leaders in the community. A little dope now and then and something for that "just a cold, you know," or he will find it pretty hard sledding.

And how they will lie to get you mixed up in a deal of that kind. What a helpless position for one who is not on his guard.

Speaking of baby welfare work. I have just been looking at the pictures of two of the recent prize winners, and I notice that one of the champions has adenoids and the other squints.

Isn't it strange how American physicians permit outsiders to steal American thunder? American books twenty years old tell us about the islands of Langerhans, and half a score of our best manufacturing laboratories have been putting out preparations of pancreatic substance for many years. Many physicians have used these preparations and in a certain class of cases with almost invariable success.

I think it time that our American Association put a couple of good bright men at the door of the patent office.

A recent writer tells us that under modern treatment the mortality rate has been greatly reduced. It may be an error. Most board of health workers take credit for that.

And this from Ohio:

A man from Morrow county bitter complains about the action of state inspectors condemning a school buildin'. He sez: "True, it did not contain a dance hall nor swimming pool, nor a room in which our country girls could learn to cook. It was presumed that their mothers would have sufficient ability and the good of their daughters at heart to the end that this would be done at home. The thought was far from the mothers that the community needed a high salaried city dame to instruct the community how to prepare proper viands. This has followed in the wake of county nurses, federal mid-wives under the maternity law to whom the expectant mothers must report in

order that the baby may be born under governmental regulations, etc., etc. O, ye gods, where will the end be? Somebody, soon, please step forward and show us how we may save our homes and hearths that parents and children may have a roof under which they may shelter their bodies from Ohio's changeable weather." —Ohio Farmer.

We can doubt the sincerity of the physician who exploits himself through the lay papers.

I would be better pleased to be called an empiric with a living patient than to be called ultra scientific at the funeral of one of my own patients.

We have much to learn, but nearly as much to unlearn. It hustles us to keep in touch with the discoveries of the age, but we should not let the vapors of the present obscure the truths of the past.

He called it a case of coryza and treated it with vaccines and serums. It made a great report, and he was proud to say that his patient made a fine recovery in about two weeks. But right upon his own shelf he had some little tablets that he formerly used in such cases with the result that the patient was well in forty-eight hours. Which makes us think of the way Tom Sawyer dug his nigger out of prison. Let us not quit certainty for hope. It may be fully as scientific to cure a patient by tried methods as take too many chances with things not yet fully demonstrated. If we know a simple remedy that will cure a disease, why not use it?

Some think that our higher authorities are partial to the products of certain firms. Some think that it is now becoming the rule to favor the judgment of those only who belong to a certain faction. Probably not so bad as that, but every physician must do his own thinking.

Some very nihilistic sarcasm has been vented at American physicians and chemists for suggesting the use of certain substances, and later on the same objectors were stepping over each other to get to the lay papers with their own great "original" discoveries.

Thousands of interest in the unborn baby. Nearly as much in the under two-year-old. But, what are you going to do with these humans after they get older. Not many years ago we read of an ex-millionaire who died in the Kent county poor house. A year or two ago the people in a little northern town were trying to raise some money to buy a monument for an aged physician. Before this man died I knew him to be homeless and hungry. I saw him aroused from his sleep upon the floor by a kick and asked to write a prescription for which he got not one cent nor even a thank you. Yet, at one time this man was bright and intelligent. His own generous self-denying spirit was taken

advantage of, and there was no one to do for him what he had done for thousands. At the same time in the adjoining counties two good old-time physicians were spending their last days in county poor houses. And there were a lot of other old folks in those county houses, too. Now I want to ask some of these reformers what they are going to do with these dear babies after they get old. And I want to tell every physician in Michigan that he need look for very little sympathy from the dear ones whose pains he has relieved, or whose lives he has saved. The doctor must go on doing good for its own sake, kindness, sympathy and humanity must ever be with him, but he must always remember that few physicians are remembered long after they become useless. And it is also up to the physician to lead the demand for deferred old age and better care for the unfortunate aged.

Which leads us to wonder why physicians do not more generally take more interest in old age pensions. Surely we need not go far to find worthy elderly people who need much that they are unable to obtain. NO, SIR, this is not for me. I don't want a pension. When I get too old to take care of the sick, I am going into politics and get a job bossing the medical fraternity. But, in all seriousness, physicians ought to be in the front rank when these questions come up. We are scared when anyone says socialism, but socialism is all right if the benefits of it and the administration of it are the perquisites of a special few.

Northern Michigan is most beautiful in the summer time. The roads are good and the atmosphere is invigorating. But in the winter the roads are very bad and almost impassable. Snowdrifts from six to ten feet deep were common last winter. Physicians had hard work to care for the sick. Money was scarce, collections poor, and many were ill. Summer resorters are numerous now, and among them are some physicians. Some of these men have brought their outfits with them. They hope to get a little of the farmer's business to cut down their board bills. Then, again, there are the high salaried summer resorters, whom the great state of Michigan pays fat salaries to come up here and rest from their winter's idleness. They are holding free clinics here now. Golly, I had some WINTER clinics a few weeks ago that were quite interesting. I note these folks forget the local physician, which oversight looks a little suspicious. They forget that it was through the efforts of physicians that our board of health was organized. But they are having a good time and the state is paying for it. Many country doctors wish that the state would pay for some of the work they did last winter.

And here comes another picture of a prize winning baby. Fine looking child, but say, they failed to notice that he is cross-eyed.

I find that many voters are anxious for the passage of that bill providing for the prevention of litigation. They want a bureau of free legal information in every county. One of our farmers tells of a suit over a dog that—the suit, of course—cost the parties over eight hundred dollars. It is claimed that the establishment of free legal information bureaus would prevent almost all litigation and save the public many dollars. Quite likely, now that free medical assistance is to be furnished, our legislators will see the need of free legal advice for our people. You see, I keep a dog, and if that bureau will save me eight hundred dollars I want that bill to pass.

Doctors are all interested in good roads. We all want them, but it is said that our roads are costing more with federal aid than they should cost without it. Perhaps the physicians of Michigan would do well to spend a part of their time studying politics. We are told that right in Grand Rapids is a firm that builds a better road by a new process for much less money, but contracts sometimes go a long ways from home. It is up to us to find out what are the real benefits of federal aid. Let me tell you that when the United States takes over the business of manufacturing infants there will be some cost attached; and some bum babies.

A fellow told me a day or two ago that I was getting old. I agreed with him and innocently doubled my price.

You are doing good work with the Journal. Hope the good doctors of Michigan will keep you right where you are.

That Voice From the Jackpines.

THE HARRISON NARCOTIC LAW AND ITS ADMINISTRATION

The medical profession has many times, through its various organizations, approved of the general principles involved in the Harrison law. It has even approved of the numerous impositions upon itself involved in the law and has not murmured greatly at the unjust tax imposed upon its members by the law. Some of the employes of the Department of Internal Revenue, who are charged with enforcement of the law, have made themselves obnoxious by their manifest attempts to develop criminal cases against honorable physicians where no evidence exists, that the law has been violated for purposes of gain. If a physician violates the law for purposes of gain he cannot be too harshly dealt with, but he should not be imposed upon and persecuted because of technical mistakes he makes in deal-

ing with defective humanity, whereby he unintentionally violates the law.

Recently in the United States court for the eastern district of Michigan, Dr. Harry M. Leach, a worthy and long established physician of Saginaw, was convicted by order of the court for violating this law, although the patient had been a charity case whom he had treated by the well established method of gradual reduction, by means of which he had reduced the daily dose from eighteen to four grains within a short period. The judge said that no doctor had ever cured a case by such methods and cited as proof of such statement the fact that the doctors on the stand would not betray professional confidence by giving the names of patients so cured. Further, the judge stated that doctors should refuse absolutely to prescribe for drug addicts, let them go on the street and buy narcotics clandestinely, get arrested and he would send them to prison, where they would be cured at once.

The judge seemingly does not appreciate the terrible suffering imposed upon a human being by suddenly depriving him of his accustomed supply of narcotics.

Physicians know no greater human suffering is ever experienced than is suffered by the addict who is suddenly deprived of his accustomed drug. The judge, it appears, has entirely too much confidence in the efficacy of curing addicts by prison sentences. It is known generally to the medical profession that prison bars impose no obstruction to the admission of opium and cocaine. There appears to have been no evidence presented that a prison sentence ever procured a cure of a drug addict except the unsupported statement by Dr. Leach's charity patient that he had been cured by a prison sentence after the reduction in his daily dose previously alluded to. The jury came in three times without a verdict and one of guilty was finally secured from them by the judge, who polled them in open court. The physicians of Saginaw are incensed by the verdict and it is a most serious situation to face by the medical profession.

Are we to give up our liberties and surrender our consciences to the tender keeping of the United States courts?

Are we to give up our own ideas of treatment of drug addicts and accept the rules laid down by these courts?

The writer of this had an unfortunate experience at the inauguration of the Harrison Act. He knew a fine lady who was a morphia addict. He had given her prescriptions for the drug for many years. Without success he had appealed to her to enter a sanitarium for treatment. No appreciable harm had come to the lady from her drug addiction. She moved

as usual in society and conducted the affairs of her household. She was considered a valuable member of society and was a support and help to her husband and daughter. The writer conceived that the Harrison Act gave him an excuse to force this lady to take treatment that would lead to a cure of her habit. He did not imagine that any judge would ever declare that he should not use his own judgment in prescribing any drug, but he grasped the wording of the Harrison Act as an excuse and told the lady that she could receive no more prescriptions for morphia after the law went into effect. She appeared to accept the situation and promised to enter the hospital for treatment. On the day the law went into effect I was called to her house and found her dead—by the carbolic acid route. The first victim in Michigan to the Harrison narcotic law! Many more followed.

The passage of the law was followed by innumerable suicides all over the land. If the administration of the law is to be followed up along the lines laid down by the courts, there will be many more suicides to charge up to it in the future. What does the medical profession think of it?

W. T. Dodge.

Editorial Comments

Do not forget to mark the dates for our annual meeting. They are: Grand Rapids, Sept. 11-12 and 13th. The completed program will appear in the August issue.

It is a sad state of affairs when courts, without individual training or scientific knowledge, assume to dictate principles of medical practice. In the case at issue we trust the doctor will appeal the case to a higher court. We have plead, and plead again, that the profession unite and take the aggressive in resisting state domination of medical practice. Unless you do, this is but one example of what you may expect.

"Cloverland Echoes," by Dr. C. F. Whiteshield of Powers, Mich., is a pleasing collection of verse assembled in booklet form. It imparts an interpretation of nature and men that is human. It reveals the author's love of nature and humanity. It lifts one to the good and the beautiful and shuts out the sordid and commercial. It is a human expression emanating from one who must be a man among men—the type of which there are so few. Congratulations, doctor.

One of the important features of our annual meeting, to be held in Grand Rapids September 11, 12 and 13, is the holding of all our general and section meetings in one building and under one roof. The Park Congregational church, located in the center of the city, with its main auditorium, Sunday school room, guild house and gymnasium, provide splendid audience rooms for all our meetings. They are well lighted and have ample ventilation. The registration booth and exhibits will be located in the large ballroom of the Pantlind hotel. We

are sure you will be pleased with the arrangements the Kent County Medical Society is making for your comfort and pleasure.

Graduation exercises for the year have been held in every medical college. As these graduates received their degrees, the oath of the father of medicine was administered to them. The language in which it was first pronounced is no longer spoken and the very gods the early physicians called to witness have been discarded. The oath remains pertinent, applicable and meritorious of continued observance. Lest you have forgotten, lest you violate it, for you who have been practicing 10 or 25 years or more, we reprint the allegiance oath of the profession you represent:

"You do solemnly swear, each man by whatever he holds most sacred:

"That you will be loyal to the Profession of Medicine and just and generous to its members;

"That you will lead your lives and practice your art in uprightness and honor;

"That into whatsoever house you shall enter, it shall be for the good of the sick to the utmost of your power, you holding yourselves far aloft from wrong, from corruption, from the tempting of others to vice;

"That you will exercise your art solely for the cure of your patients, and will give no drug, perform no operation, for a criminal purpose, even if solicited; far less suggest it;

"That whatsoever you shall see or hear of the lives of men which is not fitting to be spoken you will keep inviolably secret.

"These things do you swear? Let each man bow the head in sign of acquiescence.

"And now, if you shall be true to this your oath, may prosperity and good repute be ever yours; the opposite if you shall prove yourselves forsworn."

In recording the election of Dr. Frank A. Kelly as president of the Wayne County Medical Society we impart the following from a Detroit newspaper:

"Election of Dr. Frank A. Kelly as president of the Wayne County Medical Society in one of the largest votes ever polled by the organization means something more than the personal distinction of one member of the profession. It is essentially a vindication of Dr. Kelly's work as chairman of the legislative committee; and the outstanding feature of that work was his opposition to the spread of state medicine as against private practice.

"State medicine has already developed to the point where boards of health and other public bodies that live on taxes impinge upon the sphere of the private practitioner, and in the name of social service teaches a kind of pauperism highly approved by those who dream of a communist heaven. Because Dr. Kelly stands squarely against that tendency he will have the moral support of those in other vocations who do not want communism, and who are opposed to communistic measures."—Detroit Saturday Night, June 2, 1923.

The officers of the Medical Section are busying themselves with plans to make the forthcoming annual meeting at Grand Rapids, September 12 and 13 epochal in the annals of the Society. Already a program is being outlined, and the following subjects will be covered by addresses, lectures and discussion. It is hoped that two papers will be given on each subject:

Gastro-intestinal.

Cardiovascular.
Baso-Metabolism.
Endocrinology.
Neuro-Psychiatry.
Skin and Syphilis.
Tuberculosis.
Bones and Joints.

This program covers a wide enough field to interest all internists, and it is desired that members who wish to present papers will communicate immediately with the undersigned officers of the Section. It may be mentioned that Michigan men will be expected to contribute the major part of the program of papers, etc.

In the August number of the Journal there will be published a full outline of this program, with names of essayists and speakers, and will contain a brief synopsis of each paper and also the names of the gentlemen who will lead in the ensuing discussions.

The attention of the whole profession is directed to the Grand Rapids meeting one month hence, and internists in particular are requested to interest themselves in the endeavors of the Medical Section to successfully carry out their part of the proceedings. Again it is urged that all those who wish to assume a part in the program will communicate with the officers.

MICHIGAN STATE MEDICAL SOCIETY.

Medical Section.

J. L. Chester, M. D., Chairman.

Frank J. Sladen, M. D., Secretary.

State News Notes

COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

Four lepers were recently discharged as cured from the Cabo Blanco leper colony in Venezuela.

Dr. Angus McLean of Detroit, sailed for France, May 14, 1923, for a six weeks' trip.

Dr. Constantine L. A. Oden of Muskegon, made a short business trip to Chicago the first of June.

A scholarship in pathology in the Detroit College of Medicine (\$18,000) was raised during the past year.

The Rockefeller Foundation has spent in the last ten years \$24,716,859 on medical education and \$18,188,838 on public health.

The Detroit Otolaryngological Society elected, May 23, 1923, the following officers: President, Dr. J. S. Wendel; secretary-treasurer, Dr. F. L. Ryerson.

The McMillan Chiropractic bill (to establish a state licensing chiropractic board) was killed by the Texas senate, May 4, 1923.

Dr. F. T. F. Stephenson of Detroit was chosen commander-in-chief for three years by the Michigan Sovereign Consistory.

Dr. O. M. Gurzhet of Detroit read a paper on "Toxemias of Pregnancy" before the Detroit Medical Club, May 17, 1923.

The name of the Hahnemann Hospital of Chi-

cago has recently been changed to the Chicago Memorial Hospital.

The new City Hospital at Traverse City has been named the James Decker Munson Hospital in honor of Dr. J. D. Munson.

Mr. Edward Mallinckrodt of St. Louis has donated \$500,000 to Harvard University toward the construction of new chemical laboratories.

The Lapeer County Medical Society tendered a dinner in May at Inlay City to Doctors George W. Jones of Inlay City and William Blake of Lapeer.

Dr. A. C. Morgan read a paper on "My Views of Tuberculosis" before a special meeting of the Wayne County Medical Society, June 11, 1923.

The Michigan State Board of Registration in Medicine held an examination in Ann Arbor, June 12-14, 1923, and another in Detroit, June 18-20, 1923.

The American Association for the Study of the Feeble Minded held its forty-seventh annual session in the Hotel Statler, Detroit, June 15-18, 1923.

Dr. Guy L. Keifer of Detroit addressed the Grand Rapids Rotary Club on the subject of "How to Keep Well" at the regular club meeting, June 7.

Dr. Geo. L. LeFevre of Muskegon has been in Ann Arbor, attending a meeting of the State Board of Registration.

Doctors Laurin, Cramer, Bussard, Egan and Morford of Muskegon, attended the automobile races at Indianapolis, on Decoration Day.

Dr. C. C. McClellan was elected to the board of governors of the Detroit chapter, Sons of the American Revolution, June 14, 1923.

At the annual meeting of the Alumni Association of the University of Toronto, held in Windsor, May 31, 1923, Dr. B. D. Harrison of Detroit was elected vice president.

Dr. R. S. Dixon of Detroit read a paper on "Communicable Diseases and Their Relation to the Practitioner" before the Detroit East Side Physicians' Association, May 3, 1923.

Dr. A. W. Blain of Detroit read a paper on "Goitre with Special Reference to the Selection of the Anesthetic" before the Saginaw County Medical Society, May 18, 1923.

Dr. H. P. Doub recently resigned from the staff of Grace Hospital, Detroit, to become the head of the Department of Roentgenology at the Ford Hospital, Detroit.

Dr. and Mrs. John C. Dodds of Detroit sailed from Montreal, May 11, 1923. The doctor will attend clinics in London and Paris. They will be gone about two months.

On May 7, 1923, the animal experimental laboratory on the estate of Dr. Charles H. Mayo of Rochester, was destroyed by fire at an estimated loss of \$150,000.

Dr. Frederick Banting was officially appointed Professor in Medical Research at a recent meeting

of the board of governors of the University of Toronto.

The Sixth Congress of the International Surgical Association will be held in London England, July 17-20, 1923, under the chairmanship of Sir William Macewen.

Dr. and Mrs. W. J. Stapleton and family will leave Detroit, July 2, 1923, for a two months' trip to Europe. The doctor intends to attend clinics in Vienna.

Dr. F. G. Novy of Ann Arbor delivered an address at the celebration of the eight hundredth anniversary of St. Bartholomew's Hospital, in London, June 7-9, 1923.

Dr. Hugh Cabot of Ann Arbor read a paper on "Small Renal and Urethral Calculi" before the Western Ontario Academy of Medicine, May 25, 1923, in London, Ontario.

Dr. David M. Cowie of Ann Arbor was elected president of the American Pediatric Society at its thirty-fifth annual meeting, held in French Lick Springs, Ind., May 31-June 2, 1923.

Dr. H. A. Luce has severed his connection with the Pennsylvania Avenue Sanatorium after seventeen years' service. Still retains his office in the Whitney Building.

Dr. Hugh A. Stewart of Flint has been appointed by Governor Groesbeck a member of the Michigan State Board of Registration in Medicine to take the place of Dr. Arthur Hume of Owosso (resigned).

In April the Connecticut legislature passed an act directing the State Department of Public Health to refuse the federal aid provided for under the Shepard-Towner law. The governor signed the act.

Mt. Pleasant, Mich., May 23.—Ward F. Miller, chiropractor at Shepherd, was found guilty of violation of the state medical registration law and was sentenced to 45 days in the county jail and fined \$150.

The Detroit East Side Physicians' Association elected the following officers at its annual meeting, held May 18, 1923: President, Dr. C. F. Kuhn; vice president, Dr. H. L. Clark; secretary, Dr. E. C. Baumgartner, and treasurer, Dr. A. E. Voegelin.

Dr. George Van Amber Brown of Detroit delivered the oration on surgery, "Practical Points in Embryology and their Relation to Kidney Surgery" at the annual meeting of the Illinois State Medical Society, May 15-17, 1923.

Dr. Warren T. Vaughan (son of Dr. V. C. Vaughan) has resigned as attending physician to St. Elizabeth's Hospital, Richmond, Va. Dr. Vaughan will assume the editorship of the Journal of Laboratory and Clinical Medicine.

The forms of this issue were closed on June 16th by reason of the editor's departure to San Francisco to attend the annual meeting of the A. M. A. This will account for the omission of copy reaching this office after that date.

The Wayne County Medical Society elected the following officers, May 21, 1923: President, Dr. F. A. Kelly; vice president, Dr. G. E. Frothingham; secre-

tary, Dr. B. C. Lockwood, and trustee, Dr. W. M. Donald.

Dr. Henry M. Hurd was given a dinner, May 3, 1923, in commemoration of his eightieth birthday by the physicians of Baltimore. Dr. Hurd was at one time superintendent of the Eastern Michigan Asylum at Pontiac.

At the annual meeting of the Detroit branch of the American Urological Association, the following officers were elected: President, Dr. W. E. Keane; vice president, Dr. W. C. Martin; secretary-treasurer, Dr. H. L. Morris.

The Detroit Medical Club elected the following officers, May 17, 1923: President, Dr. J. H. Dempster; vice president, Dr. E. W. Mooney; secretary-treasurer, Dr. L. F. Webber; trustees, Doctors F. W. Meader, J. E. Davis and W. D. Ford.

A committee representing the Iowa State Medical Association and other organizations has been named to co-operate with the State University of Iowa College of Medicine in planning courses to train physicians for general practice in the rural sections of the state.

The Board of Trustees of Butterworth Hospital, Grand Rapids, adopted a new constitution and by-laws, and for the purpose of reorganization the entire medical staff voluntarily tendered their resignations. The staff is to be reorganized on an entire new plan.

Dr. Leo Dretzka of Detroit sailed for Europe on April 17, 1923, on the S. S. Mauretania. While abroad, he will visit clinics in Rome, Berne, Vienna, Berlin and Paris, and in June will attend the International Surgical Congress in London. Mrs. Dretzka, who has been abroad for one year, will return with Dr. Dretzka in the fall.

At the annual meeting of the Alumni Association of the Detroit College of Medicine, June 14, 1923, Dr. Howard W. Pierce of Detroit was elected president; Dr. Walter J. Wilson of Detroit, honorary president, and Dr. Angus McLean of Detroit, a member of the board of trustees.

The American Gynecological Society held its forty-eighth annual meeting in Hot Springs, Va., May 21-23, 1923. Dr. B. C. Hirst of Philadelphia, was elected president; Doctors J. O. Polak of Brooklyn, and H. M. Little of Montreal, vice presidents; Dr. A. H. Curtis of Chicago, secretary, and Dr. C. C. Norris of Philadelphia, treasurer.

The Annual Clinic Week of the Alumni Association of the Detroit College of Medicine was held June 11-15, 1923. The following out-of-town physicians appeared on the program: Doctors J. B. Squier of New York, A. C. Morgan of Philadelphia, J. C. Litzenberg of Minneapolis, W. W. Babcock of Philadelphia, Emil Novak of Baltimore, C. L. Scudder of Boston, and William Sharpe of New York.

Dr. A. W. Ives of Detroit was appointed superintendent of the State Public School at Coldwater by Governor Groesbeck, May 17, 1923. Dr. Ives succeeds Dr. J. B. Montgomery, who has headed the institution for about 25 years. The Coldwater school is an institution for normal, dependent children and has a population of about 300.

The American Gastro-Enterological Association

elected the following officers at its annual meeting, held in Atlantic City, April 30-May 1, 1923: President, Dr. R. W. Mills of St. Louis; vice presidents, Doctors David Riesman of Philadelphia and A. F. Chace of New York; secretary, Dr. John Bryant of Boston, and treasurer, Dr. C. R. Jones of Pittsburgh.

The Detroit Academy of Medicine gave a complimentary dinner to Dr. P. M. Hickey at the Detroit Country Club, May 22, 1923. Dr. B. R. Shurley acted as toastmaster and Doctors G. L. Kiefer, R. B. Canfield (Ann Arbor), A. W. Crane (Kalamazoo), W. H. Sawyer (Hillsdale), and P. M. Hickey spoke. Dr. C. G. Jennings, in behalf of the Academy, presented Dr. Hickey with a silver pitcher. About 75 physicians were present.

County Society News

GRATIOT-ISABELLA-CLARE

The June meeting of the G. I. C. was held in the Park House, St. Louis, Tuesday, June 12. The members and their guests were the guests of the Park House for a delightful supper. A long table was artistically decorated in the spacious dining room, where 30 sat down to a bounteous supper. Dr. A. R. Wheeler, the attending physician to the St. Louis Sanitarium, was responsible for the invitation to our society to have this supper and meeting with them, and later was given a vote of thanks.

In the absence of President Brondstetter, Vice President DuBois called the meeting to order. Dr. C. F. DuBois was elected delegate, and Dr. E. T. Lamb, alternate to the State Society meeting.

Dr. Oliver Lohr of Saginaw then talked to the society on "Laboratory Methods in Goitre," showing how a metabolism test is made. Dr. J. D. Bruce, also from Saginaw, then read a paper on the diagnosis and treatment of Goitre. These papers were discussed by Doctors I. N. Brainerd and R. B. Smith. Altogether a very pleasant and profitable evening was spent.

E. M. Highfield, Secretary.

OAKLAND COUNTY

A regular meeting of the Oakland County Medical Society was held the evening of May 23, at the Hotel Allendorf, Holly. Twenty-seven were present, which included four from Fenton, and one from Clyde as our guests.

Dr. Keller of Holly presented the paper of the evening, the subject of which was "The Practical Treatment of Pneumonia." Dr. A. V. Murtha presented the serum treatment of type one pneumonias, complimenting Dr. Keller's paper. Discussion was opened to the house and many valuable points stressed.

No further business was taken up and the meeting was adjourned.

Dr. P. D. Hilty of Birmingham, one of our members, who was secretary of this society last year, dropped dead in church, Sunday, June 10. Dr. Hilty was one of the prominent members of this society, and his untimely demise removes from among us a personality that will be greatly missed. He was loved and admired by all who knew him. Burial took place at Birmingham, the funeral ceremony being held at his home, 130 Elm street. A large representation of the medical men of the society from all parts of the county attended the last rites.

Dr. R. G. Tuck has left the government hospital

at Detroit and is now living with his parents at Brown City, Mich. At this particular writing he is visiting at the home of his brother-in-law, Mr. Stader, on State street, Pontiac. Dr. Tuck is much improved, his paralysis departing slowly.

Frederick A. Baker, Secretary.

Book Reviews

MEDICAL STATE BOARD QUESTIONS AND ANSWERS. By R. Max Goepf, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic; Assistant Professor of Clinical Medicine, Jefferson Medical College. Fifth edition, thoroughly revised. Octavo volume of 731 pages. 1923, cloth, \$6 net. W. B. Saunders Company, Philadelphia and London.

The revised edition represents the progress of medicine. It is of value to those who are preparing themselves for examinations before state boards.

A TEXTBOOK OF THERAPEUTICS—The New (Sixth) Edition. Textbook of Therapeutics, including the Essentials of Pharmacology and Materia Medica. By A. A. Stevens, M. D., Professor of Applied Therapeutics, University of Pennsylvania, Philadelphia. Sixth edition, entirely reset. Octavo of 793 pages. Cloth, \$6.25 net. W. B. Saunders Company, Philadelphia and London.

This revised sixth edition of a text that has been recognized as of value and authority represents the advances of Pharmacology and applied therapeutics. It includes for the first time benzyl benzoate, thyroxin, mercurochrom, pituitary extract and similar new remedies that are of accepted value. Here is a desk text that quickly enlightens one in regard to the use of drugs in influencing disease.

NEW AND NONOFFICIAL REMEDIES, 1923, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1923. Cloth. Price, postpaid, \$1.50. Pp. 415+XXXVI. Chicago: American Medical Association, 1923.

The progressive, up-to-date physician cannot dispense with the newer remedies, proprietary and non-proprietary. Yet he can neither select them on the basis of the manufacturers' claims alone, nor devote his patients to experiments while he tries out those claims.

New and Nonofficial Remedies is the publication of the Council on Pharmacy and Chemistry through which this body annually presents the American medical profession with disinterested, critical information about the proprietary medicines which are offered to the profession, and which the Council deems worthy of recognition. In addition to the descriptions of proprietary preparations, the book contains descriptions of those nonofficial remedies which the Council deems deserving of consideration by the profession.

A valuable feature of the book is the grouping of preparations in classes. Each of these is introduced by a general discussion of the group. Thus the silver preparations, the iodine preparations, the arsenic preparations, the animal organ preparations, the biologic products, etc., each is preceded by a general, thoroughly up-to-date discussion of the particular group. These general articles compare the value of the products included in the group with similar pharmacopeial and other established drugs which it is proposed that these proprietary preparations shall supplant.

A glance at the preface of this volume shows that the book has been extensively revised. In fact, each edition of New and Nonofficial Remedies is essentially a newly written book, brought up to date by those who speak with authority on the various phases of therapeutics.

Physicians who wish to know why a given proprietary is not described in New and Nonofficial Remedies will find the References to Proprietary and Unofficial Articles not found in N. N. R. of much value. In this chapter (in the back of the book) are given references to published articles dealing with preparations which have not been accepted.

New and Nonofficial Remedies should be in the hands of all physicians who prescribe drugs. The book contains information about the newer materia medica which cannot be found in any other publication.

The book will be sent postpaid by the American Medical Association, 535 North Dearborn street, Chicago, on receipt of \$1.50.

INTERNATIONAL MEDICINE. Three volumes and Desk Index. By James C. Wilson, A. M., M. D. Professor of Medicine, Jefferson Medical College, assisted by C. H. Turner, M. D. 427 illustrations. Price \$20.00 for set.

The first two volumes are devoted to medical diagnosis. The third volume is on treatment and in its preparation the author is assisted by Samuel Bradbury M. D. of Cornell University Medical College. A valued desk index volume enhances and completes the set. This is the sixth edition of an accepted standard set that has held, and continues to hold an authoritative place in our literature.

It is a practical presentation of medical diagnosis. In making this assertion we convey the opinion that it is practical in its positiveness and application. One seeks, finds and is definitely instructed. In its discussion on diagnosis one is placed in possession of all that is accepted and recognized to be of value when endeavoring to complete a diagnosis. Nothing remains to guess or wonder about. Therefore we accord this work our hearty endorsement and commendation.

The third volume on treatment supplies the final need of the practitioner and makes this set most complete. Each of the diseases is covered and the physiological medicinal and dietetic methods and aids in treatment are adequately detailed.

The entire set merits full and confident reception. It belongs in the library of every studious and progressive physician.

EPIDEMIOLOGY AND PUBLIC HEALTH. A text and reference book for physicians, students and health workers. In three volumes, by V. C. Vaughan, M. D., U.D.; H. F. Vaughan, and G. T. Palmer. Volume II, 917 pp., cloth, price \$9.00. C. V. Mosby Co., St. Louis, Mo.

This is volume two of a system that we commented upon some months ago when volume one was issued. This volume is devoted to nutritional disorders, alimentary infections and percutaneous infections. The arrangement is similar to volume one. Diseases are grouped according to the avenues by which the virus reaches and infects the body.

We repeat, this is the most comprehensive work existing. Its value becomes more and more apparent as one delves in the text. It is the most important text of the day and is needed by every doctor. We trust it will receive the widespread distribution that it merits. Buy it, doctor, you never bought a better book.

THE TONSILS: ORAL, LINGUAL AND PHARYNGEAL. Harry A. Barnes, M. D., Harvard Medical School. Cloth, 217 pp., illustrated, second edition. Price \$5.00. C. V. Mosby Co., St. Louis, Mo.

Here we have a discussion of accepted facts concerning the lymphoid tissue of the throat. In addition the application of these facts in clinical work is well presented. This second edition reflects the accepted changes of recent years. It contains a splendid chapter on focal infections. It is a text

that will keep one from going wrong on the mooted tonsil question. We commend it most favorably.

CEREBROSPINAL FLUID IN HEALTH AND IN DISEASE. Abraham Levinson, M. D., Northwestern University Medical School. Cloth, 266 pp., 69 illustrations. Price \$5.00. Second edition. C. V. Mosby Co., St. Louis, Mo.

A real scientific and valued study of what may be learned from the cerebral spinal fluid in health and in disease. It is presented in such a manner as to make it a manual for every man and of distinct aid in diagnosis and treatment.

TONSILECTOMY. Greenfield Sluder, M. D., Washington University. Cloth, 176 pp., 90 illustrations. Price \$5.00. C. V. Mosby Co., St. Louis, Mo.

By means of this monograph the author presents the method of tonsilectomy by means of the alveolar eminence of the mandible and a quilltone. It is a splendid monograph, well illustrated and distinctly sets forth the method for which the author is noted. There is also included a very satisfactory discussion on anatomy, pathology and diseases of the tonsils. All in all, it is a monograph of distinct intrinsic value.

HOW WE RESIST DISEASE. An introduction to immunity, by Jean Broadhurst, Ph.D., Assistant Professor of Biology, Teachers College, Columbia University. 138 illustrations and 4 color plates.

The most successful attempt yet made to cover briefly the almost limitless field of immunity. It is planned to meet the needs of beginners, more particularly nurses and general college students who have time but for a simple brief course in bacteriology. The glossary defining over one hundred of the more technical terms insures the usability of the volume by the intelligent layman. There are one hundred and forty-two illustrations of unusually wide range and interest. The preventive as well as the curative phases of resisting disease are covered under three divisions—(1) antisera (and antitoxins) (2) the various types of vaccines, (3) tests of an individual's susceptibility or resistance. This is the only work presenting briefly—in ten lessons—the various phases of immunity; antisera, vaccines, anaphylaxis. It also covers five other lessons of the model curriculum for nurses, in bacteriology, serum therapy, etc.

Each chapter begins with a tabulated outline, presenting to the student at a glance the main topics included in each chapter and the interrelationships of those topics.

Study suggestions are given at the end of each chapter, with memory or review questions.

This book is an introduction—a simplified text on immunity and not merely an abbreviated one.

APPLIED PSYCHOLOGY FOR NURSES. Lippincott's Nursing Manuals. By Donald A. Laird, Assistant Professor of Psychology, University of Wyoming. First edition, 8 vo. Volume 1, 236 pp., 49 illustrations. Price \$2.50. J. B. Lippincott Company.

This book is the result of an attempt to select from the vast literature of psychology those facts that will be of most immediate aid to nurses in understanding the patient, themselves, and their fellow-men, as organisms that act, think and feel. The author has endeavored to avoid all controversial matter that is not borne out by fact. The point of view from which the facts are presented is biological. This does not alter the fact or applications. But it does seem to further the intelligent understanding of the behavior of human beings.

The text of the book is divided into four parts. Part one is introductory in nature. Part two presents the biological foundations of behavior. In Part three the more practical results of the bio-

logical adaptations at the psychological level are presented. In part four, certain aspects of Mental Hygiene, not taken up in other parts of the book, are considered. Such important questions as the Cause and Nature of Mental Ill-Health, Something About the Feeble Minded, How to Use Suggestion, What Should be expected from Psychology in Medicine and Nursing, the Basis of Human Behavior, the Biological Foundations of it in the Origin of Man's Needs, Use and Abuse in Thought and How Behavior Indicates Mental Activities, The Temperaments in Nursing, and the Nurse and the Mental Health of the Nation, are dealt with in such a way as to be of practicable help to the nurse who would understand her own mental life, and to the patient whose mental life should be understood by the nurse.

LABYRINTH AND EQUILIBRIUM. Monographs on Experimental Biology. By Samuel Steen Maxwell, M. S., Ph.D., Professor of Physiology in the University of California. 8 vo. First edition, Vol. 1. 163 pp., 11 illustrations. Price \$2.50. J. B. Lippincott Co.

The aim of this book is to present an objective study of the equilibrial reactions of vertebrate animals and the mechanism through which these reactions are produced. Discussions of the possible subjective sensations in connection with labyrinthine excitation, and of clinical applications of the facts are both outside the scope of the book. The ears of fishes have proved to be in many ways the most favorable objects for these investigations. The author's experiments on the functions of the different portions of the labyrinth, especially of the otoliths, were possible only because of the large size and the accessibility of the structures concerned. For these reasons the contents of the book is devoted largely to the description of the experiments on the ears of selachians and the statement of conclusions which may be reached from these experiments.

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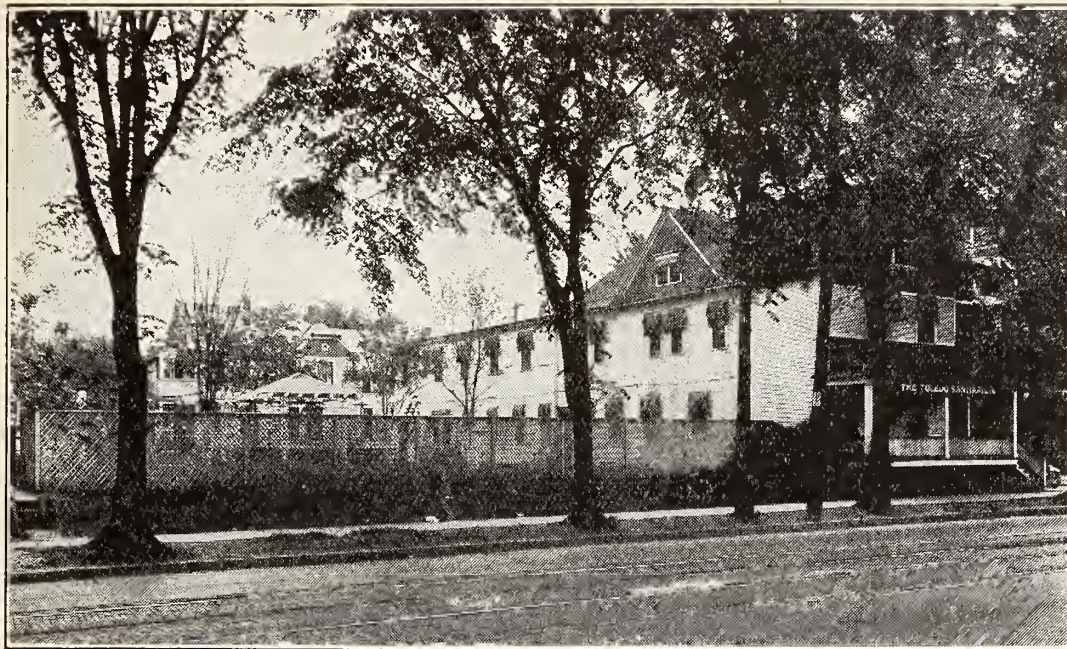
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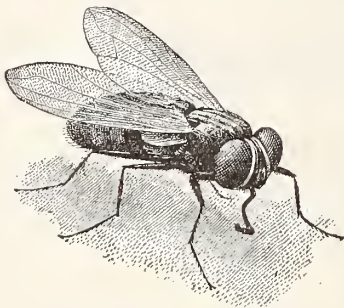
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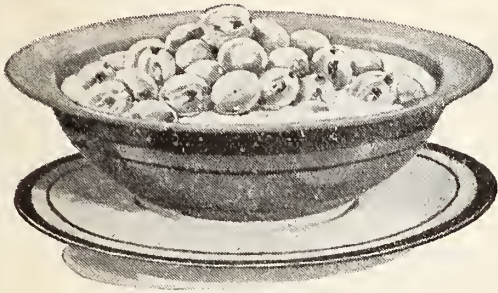
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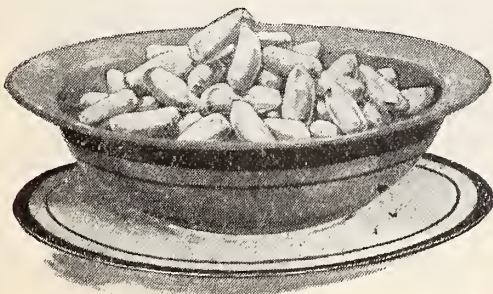
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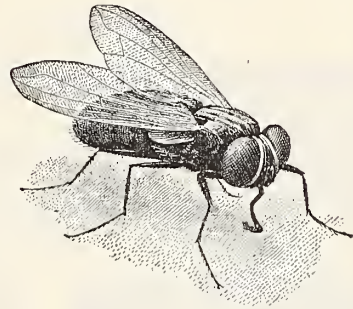
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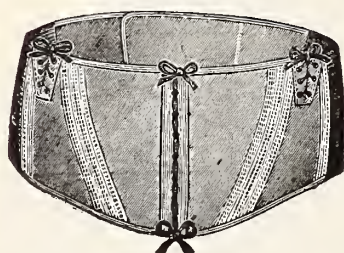
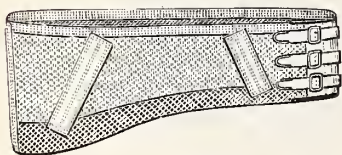
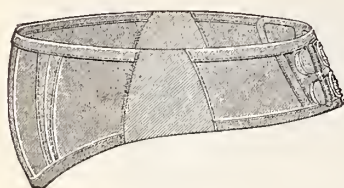
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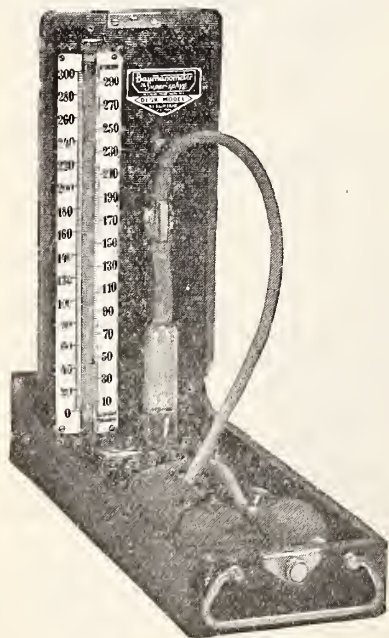
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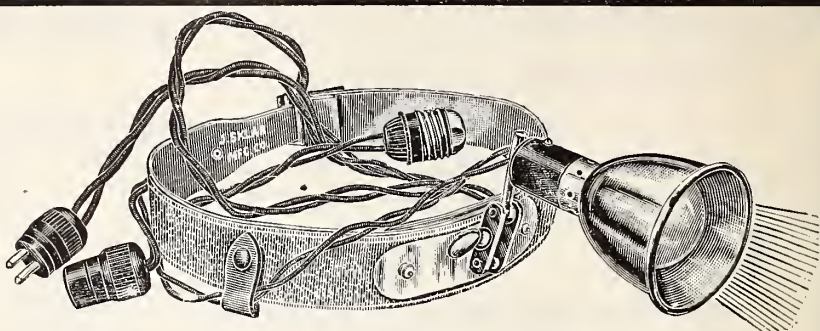
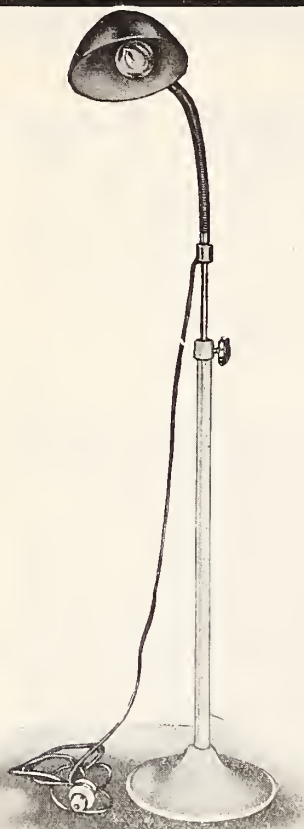
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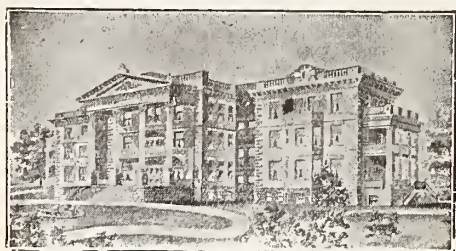
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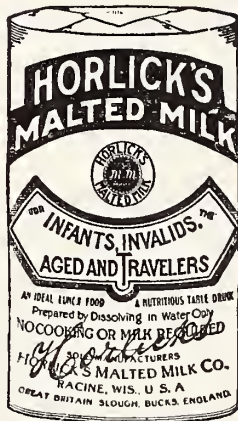
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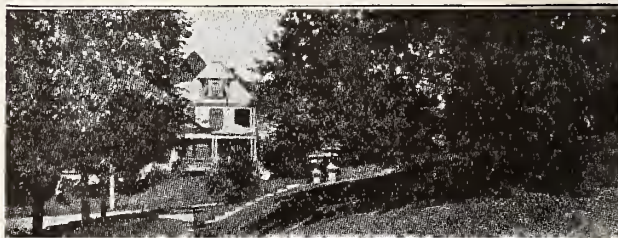
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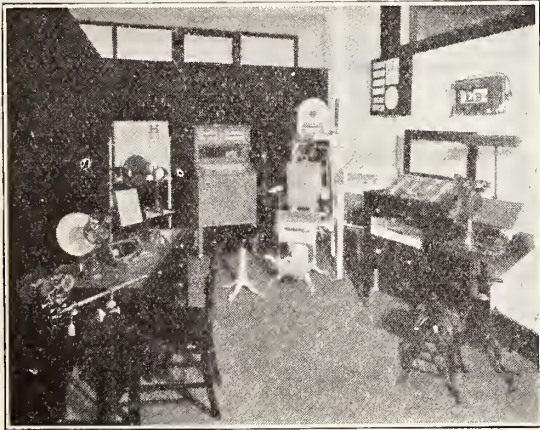
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Vol. XXII

GRAND RAPIDS, MICHIGAN, AUGUST, 1923

No. 8

Original Articles

A SURVEY OF THYROID ENLARGEMENT AMONG THE SCHOOL CHILDREN OF GRAND RAPIDS*

TORRANCE REED, M. D., and H. T. CLAY, M. D.
GRAND RAPIDS, MICH.

Because of the recent work in the prevention of goiter by Marine and Kimball, there has been an increased interest in this phase of preventive medicine, especially among those interested in public health work. The striking results obtained by Kimball (1) in the prevention of simple goiter among the school children of Ohio, are well known. Previous to the institution of this preventive work, a survey among the girls in the schools of Akron, Ohio, showed a goiter incidence of 56 per cent. In the Zurich, Switzerland, district, Klinger (2) found an incidence of 85 to 95 per cent.

Michigan lies in a well known goiter district. In view of the suspected prevalence of goiter, it was decided by the health officer of Grand Rapids, Dr. C. C. Slemons, that a survey should be made of the school children for the purpose of determining the incidence of goiter in Grand Rapids. This survey included all the school children of Grand Rapids from the kindergarten through the high schools, including private, parochial, and public schools. To the best of our knowledge no survey has been previously made so complete as this, that included both boys and girls. Kimball's survey was confined to the girls.

Dr. Kimball was interested in this matter, and came to Grand Rapids, where he delivered several public lectures on the subject of goiter and its prevention. Dr. Kimball and the examiners jointly examined a large number of girls in one of the high schools in order that

a standard for comparison might be established and the work made comparable with that done in Ohio.

With this preliminary work the survey was begun. The two examiners jointly examined one school in order that their classification should be as nearly alike as possible. Following this the schools were divided so that each examined approximately one-half of the total number examined.

A classification was adopted to facilitate the work. This consisted in calling the normal thyroid No. 1; the slightly enlarged thyroid, No. 2; those greatly enlarged, No. 3; and those thought to be adenomas were called No. 5.

Each child was given a small card upon which he wrote his name, age, grade and sex. They then formed a line, and passed by the physician, who repeated the number of the classification, which he judged it to be, to the nurse, who wrote this number upon the card. In this way it was possible to examine a large number of children without an appreciable interruption of the school routine.

The thyroid area was inspected with the child facing a good light, and then palpated. Those who showed no enlargement of the gland on inspection or palpation and through whose thyroid one could palpate the tracheal rings, were called normal. The others were classified according to their size as we had agreed; viz., No. 2, 3, and 5 in proportion to their enlargement and type.

An additional test was frequently applied; that is, palpation of the gland while in the act of swallowing. Many slight enlargements were demonstrable in this way. Many cases, in which there might be doubt of the presence of a slight enlargement, were classified as normal rather than slightly enlarged, believing that it was more desirable in a survey of this sort to incline to the normal in cases of doubt.

There were 26,215 pupils examined. Of this number 30 per cent had enlargement of the thyroid gland. Of this 30 per cent, 32 per cent were boys, while 67 per cent were girls. It was therefore shown that enlargement of the thyroid gland is approximately twice as prevalent among girls as boys. Numerically there

*Based on examination of 26,215 school pupils of both sexes.

(1) The Prevention of Simple Goiter in Man—David Marine and O. P. Kimball—*Jour. A. M. A.* 77-14—Oct. 1, 1921.
(2) Prophylaxis of Endemic Goiter—R. Klinger—*Schweizerische Medizinische Wochenschrift*, Basel—51-1—Jan. 6, 1921.

were 12,631 boys examined and 13,584 girls. Of these, 7,839 children had enlargement of the thyroid gland; 2,603 were boys and 5,236 were girls. Among the high schools the percentages of enlargement of the thyroid were found to be uniformly high as will be seen by the following figures: Union High school, 52 per cent; Central High school, 48 per cent; South High school, 44 per cent; Christian High school, 60 per cent; Catholic High school, 39 per cent. These figures include both boys and girls.

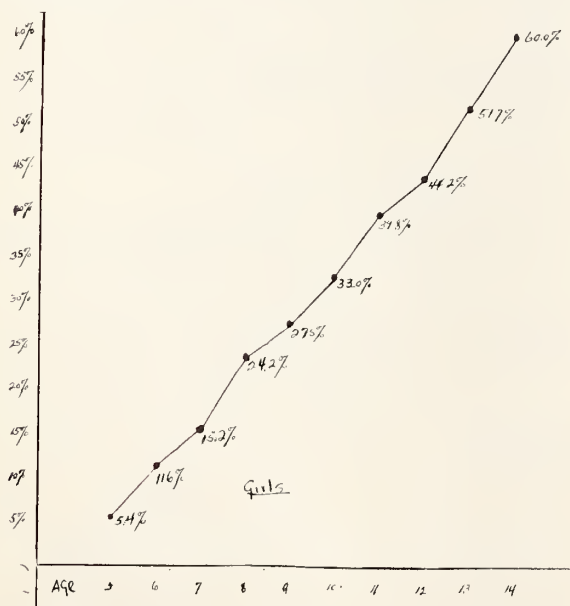
The following table shows the incidence of enlargement of the thyroid gland among boys and girls under and over 10 years of age respectively.

	Under Ten	Over Ten	Total Enlargem'ts	Total Examined
Boys ...	623	1938	2561	12,631
Girls ...	1073	4205	5278	13,584

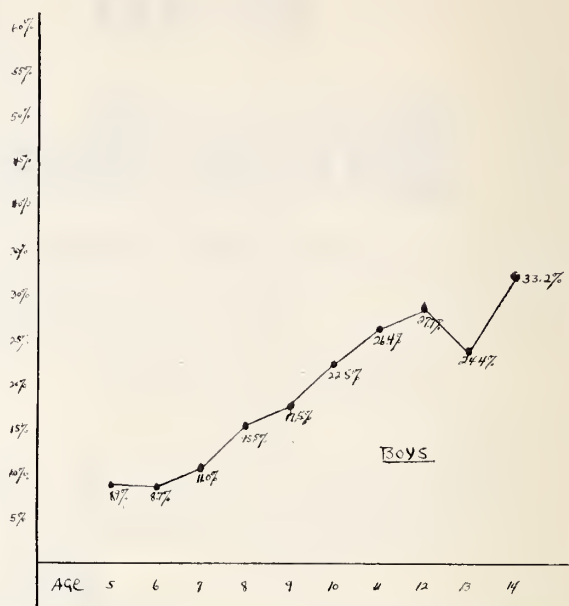
By referring to the table, it will be seen that there are in this total approximately twice as many enlargements of the thyroid among girls as boys; above 10 years the ratio is about two and one-half times as many; while under 10, there are less than twice as many among girls as compared with boys. The changes occasioned at puberty among girls are perhaps accountable in part for this greater incidence.

No exophthalmic goiters were observed during the survey.

In order to show the incidence of enlargement of the thyroid at the various ages among grammar school children, the following graphs were made.



Age Incidence of Enlargement of the Thyroid Gland Among Grammar School Children of Grand Rapids



Age Incidence of Enlargement of the Thyroid Gland Among Grammar School Children of Grand Rapids

The curve of the graph show a gradual, steady increase in the incidence of enlargement of the thyroid from the age of 5 to 14, the greatest incidence occurring at 14. The curves show the same gradual increase among both boys and girls.

In view of this prevalence of enlargement of the thyroid, the health department of the city of Grand Rapids, with the consent and approval of the Kent County Medical Society, has undertaken to prevent goiter among the school children. This consists in the giving of 10 milligrams of iodine weekly for 40 weeks throughout the school year. No child has been given treatment without the written consent of its parents. The iodine is given by the school nurse in the form of a chocolate confection made by one of the large pharmaceutical houses.

SUMMARY

1. The general prevalence of enlargement of the thyroid gland among the school children of Grand Rapids was not appreciated until this survey was completed. Thirty per cent of the children examined were found to have enlargement of the thyroid gland.

2. Prevalence of thyroid enlargement among boys is much greater than is generally supposed.

3. There is a gradual increase in the number of enlargements from 5 to 14 years, the highest number being found at 14 years.

4. Enlargement of the thyroid gland is twice as common among girls as boys in Grand Rapids.

5. The incidence of thyroid enlargement among the girls as compared with the boys is greater over 10 years of age than it is below that age.

CONCLUSION

The health department of Grand Rapids feels that goiter prevention is a public health measure; that being of interest to the general public health, it can therefore best be taken care of by public health officials through the organization of public school nurses and physicians. The Kent County Medical Society shares and approves this view. Consequently, the school children of Grand Rapids are at present being given tablets containing iodine with these preventive measures in view.

There has been a general widespread interest in this campaign to prevent goiter. Parents have shown a greater interest in the attempt to prevent enlargement of the thyroid gland than in any of numerous other health activities.

We have found that enlargement of the thyroid is twice as prevalent among girls as compared with boys, but it should be stated that the moderate and the marked enlargements are probably in about the ratio of six or eight to one as compared with boys. The slight enlargements which were so common among the boys as to bring their total incidence to approximately 50 per cent that of the girls, are the enlargements generally overlooked. We believe that this failure to discover the slight thyroid enlargement among the boys is the reason for the prevailing erroneous opinion that simple goiter is about eight times as prevalent among females as among males.

VENEREAL PROPHYLAXIS— A RESUME

EUGENE S. BROWNING, A. M., M. D.
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It is unnecessary to say that venereal diseases should not be treated in the light vein which was the custom years ago. Physicians have erred in treating these maladies as a joke. Patients nowadays realize to some degree the seriousness of their condition, and will soon tire of the medical adviser who treats their disease as of little importance.

As to the prevalence of venereal diseases, we have no adequate basis of comparison. The state's intervention has brought to our attention a great number of the floating population, who previously did not frequent the physician's office, but treated themselves. This is especially true of many prostitutes who acted as the source of distribution. However, the education of the population during the recent war period on venereal disease has enlightened the public to the extent that more people come to the physician for examination who would otherwise have used patent preparations.

The Question of Fitness for Marriage—

When a patient propounds to the physician the question of his fitness for marriage, the medical man should realize the importance of the answer to this question, that as a result of his judgment, the man and wife may enjoy a life of happiness or may be doomed to years of misery and a series of operations, or even death may ensue. We should therefore exhaust every laboratory method, including the Wassermann test, spinal puncture, examination of urine, urethroscopy, smears, and microscopic examination of fluid expressed from the prostate. We frequently see married couples whose misery could have been avoided by the proper answer to this all-important question, many times naming the doctor who treated their query lightly.

Patients with venereal diseases often come to our offices, whose quest it is to decide the guilty party or the source of infection, rather than the best means of curing it. The physician should not attempt to be judge or jury, but should save himself a great deal of unnecessary trouble by refusing to take sides in this argument.

Cleanliness—Every patient suffering from gonorrhea should be impressed with the great necessity of keeping his hands and person absolutely clean; after every exposure to wash the hands in running water, and not to use soap which he afterward might use for his face and hands, or that anyone else might use, and to wipe his hands on paper toweling which is afterward thrown away. The proper use of the gonorrheal apron and the suspensory should be recommended. Patients frequently say this advice had never been previously given, and that the physician had no facilities for washing the hands in the office they had previously visited. This advice may also be taken by physicians, many of whom have lost eyesight by gonorrheal infections. This condition is far from uncommon. Many patients, before washing their hands, count out money which they give to the physician, the money becoming contaminated. This is tainted money with a vengeance. The female patient should be advised to sleep alone. If another woman, or especially a child or infant, sleeps in the same bed, the woman or child may become infected, just how we do not know. If one infant suffering from gonorrhea is received into a children's home, the infection becomes general.

Circumcision should be performed far more often than is the custom. This is a prophylactic measure, both for uncleanness and disease.

The double standard of morality has long existed and the youth of today should have their minds disabused of this mirage. The fallacy of the necessity of sex indulgence and the danger thereof should be impressed upon

the youth. Public education and lectures by the government in this direction, and free literature by the state are all helping the cause of venereal prophylaxis. Dr. Carrier, (deceased, and formerly professor in the Detroit College of Medicine), gave the first public lecture in America on venereal prophylaxis in Detroit, Mich. Since then public lectures for both men and women have become frequent.

Don't discourage patients, yet it is not best to make rash promises of speedy cures, but rather hold out the value of completely eradicating the disease. Prophylactic treatment during the first 12 or 24 hours is of great value, yet it is not best to hold out this thread as a safeguard to indiscriminate exposure. After the acute symptoms, frequency, ardor, etc., have developed, it is then dangerous to attempt to abort the condition. As a general rule, it is not wise to attempt abortive treatment in the initial case of gonorrhea, as we know nothing of the patient's resistance or the reaction to the injections or irrigation. There is constantly before us the danger of over treating cases which are finally cured by cessation of medication. An important differentiation is whether the case in question is chronic or a new, superimposed upon the old. Don't use sounds or any instrumentation upon a patient who comes with a history of exposure during the preceding seven days. It is best not to accept his word. Be a watchman for the first week, aided by examination of urine and internal treatment. Be careful of irrigations, lest you do more harm than good by too great pressure or too strong solutions. The complement fixation test has about been discarded; it is of use in old cases of rheumatism, but otherwise has not lived up to expectations.

Gonorrhea in women as well as men, is of importance from an economic standpoint; fellow workers refuse to be employed with those who are infected, if it is known. Of those employed around food emporiums, the law demands frequent examinations. It is our duty to report every case, regardless of the lineage or status of the patient. As gentleness is the watchword in treating male patients, it is true to an even greater extent in the treatment of women. Any applications to the cervix must be made with caution in order that you do not extend the condition to the uterus and tubes. Should this occur, an operation may be the price to the patient.

Non-Specific Urethritis—This is a much abused subject and the basis of innumerable jokes, but truth is stranger than fiction. This condition really exists, and to a far greater extent than most physicians realize. Doubtless many cases have been reported when the individuals were honest in their statements and

innocent of harboring gonococci. A microscopic examination or culture is the final arbiter. Examination of the prostrate, if it be a chronic case, and examination of the fluid expressed may clear up the case. Read any good author on urology, whether it be the Frenchman, Luys, or an American authority, and you will be surprised at the number of pages devoted to non-specific urethritis. I know, personally, of families broken up and divorced upon the hasty word of a physician, when gonorrhea did not really exist. So be careful, and have smears made and examined locally or sent to the state board of health and examined free, which leaves no excuse. As Chetwood says:

"Simple or Non-Specific Urethritis—In this form, the patient gives himself the disease more often than his partner gives it to him. The evidence of irritation appears almost simultaneously with the cause, or on the second day following; sometimes it is delayed longer. A damaged mucous membrane with any one of a number of exciting causes is sufficient to kindle the slumbering congestion into active discharge and inflammation, with the aid of those micro-organisms which constantly inhabit the urethra, and under normal conditions remain there as harmless saprophytes.

"In these cases, the discharge may originate at a certain distance within the urethra from the very start, or it may commence at the meatus. The patient has intercourse, perhaps, with a woman who has no gonorrhea, who has at most a purulent leucorrhea. In 24 hours to 48, he presents himself to the physician for inspection, stating that he has an attack of gonorrhea."

This classification is made by Luys of France:

1. Inflammation of the urethra due to common micro-organisms.
2. Inflammation of the urethra said to be (aseptic).
3. Inflammation of the urethra due to chemicals.
4. Inflammation of the urethra due to a special diathesis.
5. Inflammation of the urethra of toxic origin.
6. Inflammation of the urethra of traumatic origin.

The following bacteria have been cultivated from the normal urethra.

Aerobic:

Staphylococcus albus.
Staphylococcus aureus.
Staphylococcus citreus.
Bacillus pseudodiphtheriae.
Micrococcus subflavus of Bumm.
Micrococcus lacteus farifomis of Bumm.
Micrococcus citreus conglomeratus of Bumm.
Streptococcus urinarius.
Streptococcus giganticus urethrae of Lustgarten.
Pseudogonococcus of Steinschneider.

Anaerobic:

Various strains of staphylococci.
Bacillus ramosus.
Bacillus refrigens.

Of the pathogenic organisms the colon bacillus is productive of the greatest number of infections. Its source is either venereal or its presence is due to direct extension from the rectum. Next in frequency are the staphylococcus, then micrococcus catarrhalis, and last, the streptococcus. Isolated cases of urethritis are recorded from pure cultures of bacillus lactis aerogenes, pneumococcus and bacillus pyocyaneus, and the pseudodiphtheria bacillus.

It is extremely dangerous to begin treatment of any venereal condition without examining the penis, yet this seems to be a common procedure. How do we know whether phimosis, paraphimosis, chancre, chancroid, hernia, bubo, pediculi, or any number of conditions exist, without completely exposing the patient.

The Woman's Side—Women's magazines are informing their readers on these modern subjects. Patients are surprising us daily by their well advised questions. The time is past when you may say it is all right for young men to sow their wild oats and expect to marry clean young women, and expect them to help reap the harvest of sterility, miscarriage, pelvic operations, feeble-mindedness, locomotor ataxia, paresis (ophthalmia neonatorum) and syphilitic children.

The Wassermann Test—This test is one of science's most beautiful and helpful gifts to suffering humanity, yet numerous physicians are writing articles in magazines, declaring this aid to be a failure and even a menace. By all means give your suspicious cases the benefit of the Wassermann. If you do not, your patients are going to some man who will. This test was perfected in 1905.

At one time in Philadelphia, 17 physicians from various parts of the state of Pennsylvania were being treated for syphilis, the initial source being on the fingers caused by making pelvic examinations without gloves. Yet this gross error continues. Examinations are made, women confined, and rubber gloves are not worn. This is, of course, inexcusable. The simplest appearing ulcer or chancroid on the penis or elsewhere may contain the Spirocheta Pallida. The dark field will expose these invaders several weeks before they invade the blood stream. At this time, treatment may be given and the patient saved from serious disaster. By all means take advantage of the security which this modern aid offers your patient. Laws should compel restaurants and soda fountains to boil glasses and dishes, as the Spirocheta Pallida may live for eight hours on such utensils, if sufficient moisture is present.

Authorities agree that syphilis is the most prevalent disease today, perhaps with the exception of measles. No matter, therefore, what

your department of medicine may be, you should always be on the lookout for some of the numerous signs and manifestations of syphilis in your obscure and obstinate cases.

To view these cases intelligently, the physician must forget the family's respectability and position in society, etc., and take advantage of all laboratory examinations, remembering that 8 per cent of the people with syphilis have been inoculated innocently. General hospitals where routine Wassermann's are made, have found as high as 18 per cent of their patients with a positive Wassermann who did not know they were infected.

According to the most accurate statistics as given by the American Social Hygiene Association, syphilis is the greatest killing disease in the world today, the death rate being for syphilis, 222 per hundred thousand, tuberculosis, 141.6, and pneumonia, 88.8.

Remember, syphilis is a preventable disease. The proportions of deaths under other classifications, that should be ascribed to syphilis, is as follows:

Disease	Per Cent
Locomotor ataxia.....	100
General paralysis.....	100
Congenital debility, icterus and sclerema.....	100
Organic disease of the heart.....	50
Angina pectoris.....	50
Diseases of the arteries, atheroma, aneurism..	40
Cerebral hemorrhage, apoplexy.....	40
Softening of the brain.....	40
Bright's disease.....	20
Epilepsy	10
Encephalitis	10
Meningitis (total).....	10

Ninety-six per cent of the prostitutes in the red light districts are venereally diseased. This report covers 320 prostitutes on the Barbary coast, San Francisco, Cal., who were visited and examined. The examination was for syphilis only, and showed 97 per cent diseased. Of 289 prostitutes of the Baltimore red light district, 96 per cent were found to be infected. The results of a raid on the red light district in Pottsville, Pa., showed that 81 per cent of 31 women were infected. The examination of 224 prostitutes from the Detroit red light district, for both gonorrhea and syphilis, showed 94 per cent to be infected.

This demonstrates clearly the terrible chances the young man takes who goes forth for adventure. The girl who starts out on the road, wrongly named the easiest way, doesn't travel very far before she becomes diseased. Many have confided to me that it was the price of the first step.

Seventy-two per cent of the prostitutes outside of the red light district have at least one venereal disease. Of 6,000 women examined in eight states, 70.1 per cent had syphilis or gonorrhea, or both. Thirty-three per cent of

all prostitutes are feeble-minded. This should be of importance to society and the tax payer, especially.

Ninety per cent of all sexually acquired syphilitic infections in men are derived from prostitutes, either professional or amateur. Fifty per cent of all syphilitic women are infected innocently. Seventy per cent of women who came to New York hospital for venereal treatment, were respectable married women infected by their husbands. Eighty-five per cent of married women who have syphilis, have contracted it from their husbands. Ten per cent or more in England have syphilis. Twelve per cent in Berlin have syphilis. Thirteen to fifteen per cent of the adult males in Paris are infected with syphilis. Venereal disease is so prevalent in Russia that in some of the small towns practically 100 per cent of the population is infected.

In the Michigan State Hospitals for the Insane, it was found that syphilis was a direct cause in 17.5 per cent of all male admissions, and 6.65 per cent of all female admissions.

One of the crying needs in Michigan, as in every state, for protection of innocents to prevent this awful slaughter, immeasurable suffering and heritage of distortion, is an adequate marriage law which demands of the contracting parties a complete examination for venereal diseases, to include the Wassermann for both male and female. The proper place for such a law to originate is the Medical Society. The laity has a right to expect the medical men to protect them. We have thus far permitted too many other societies and cults to abrogate our proper sphere. The City of Grand Rapids, Mich., has just adopted an ordinance compelling drug stores, restaurants and soft drink parlors to properly boil or wash their glasses, plates, spoons and utensils, to protect people from innocently acquiring syphilis. This ordinance had its inception in the action of the public health education committee of the Kent County Medical Society. Needless to say not all of the stores obey this rule, and neither will they do so until the people demand proper cleanliness.

Niesser's discovery of the gonococcus as the specific cause of gonorrhea in 1879, the Wassermann test and spinal fluid test, discovery of *Spirocheta Pallida*, April 5, 1905, by Schaudin and Hoffman, the dark field for the initial sore, the same being utilized for identifying *Spirocheta Pallida* in the tissues and organs after death, perfection of Neo Salvarsan and Arsphenamines, public education, legislation and clinics are the important milestones in the fight against venereal diseases, that is, gonorrhea and syphilis. This is a fight to the finish in which every physician must do his part to edu-

cate the public, if civilization as we know it, is to remain intact.

One of the most recent and far reaching forms of prophylaxis is represented by six clinics in New York city, for the treatment of congenital syphilis. This work was begun by Dr. Fordyce and associates. Its immense value was immediately recognized. For children, Neo Arsphenamine neutral in re-action and especially prepared for intramuscular injection, is used, followed by mercurial injections. Syphilis is the most frequent cause of still births, from 20 to 50 per cent. Maternity hospitals in New York are now investigating the history of their prospective patients to determine the presence of syphilitic infection. Blood examination is required. It has been found that the pregnant woman's blood may give positive re-action with Cholesterinized Antigen in some cases in the absence of syphilis. Syphilitic mothers treated give birth to healthy children. The children are kept under supervision, and frequent examinations are made at the clinics.

In most states where attempts were made recently to adopt laws for compulsory examinations as a requisite to obtain a marriage license, the attempts failed. When we physicians realize our duties to the public and perform the same by educating the people and having every Medical Society in the state demand such a law of the legislature and go to the capitol and fight for the law, then failure will not be recorded. As medical men, we know well the venereal menace, and realize the importance of a clean bill of health for those contemplating matrimony. I have frequently had patients consult me about venereal disease in the morning, and notice their marriage license in the evening paper.

Over 40,000,000 American people have deserted physicians for the various cults, religions and health associations with all kinds of pedigrees. We allow the laity to conduct public health campaigns of all kinds, with paid secretaries and workers, and physicians are not concerned or consulted. This same thing applies to the venereal disease problem.

THE FUTURE OF MEDICINE*

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It was in the most critical formative period of our national history that Patrick Henry said: "I have but one lamp by which my feet are guided, and that is the lamp of experience. I know no way of judging the future but by the past"—and in venturing upon the somewhat delicate occupation of prophecy, it may be

*Read before the Washtenaw County Medical Society at its May meeting.

well for us to glance at the past for comparison with the present before attempting to trace the probable onward trend of medicine.

Two impressions spring into view with the first general consideration of maladies among the most ancient of our known ancestors. One is their importance among the events of primitive lives; the other is the impossibility of any adequate conception of their causes. As might be expected, from these two facts arose the inevitable conclusion that maladies were supernatural manifestations, and their consideration fell consequently into the province of the primitive priesthood. As all religions, primitive and otherwise, are based upon beliefs or faith rather than on demonstrable facts, empiricism was a characteristic of the treatment of disease from the beginning of medical practice.

The truth of this is very evident from the remarkable prescriptions written in early Egyptian papyri and cuneiform inscriptions of Babylon and no less so in the later writings of Esculapius and Hippocrates. It would appear that it was almost an offense against the deities to apply gross material reasoning to the mysterious and awful visitations so obviously inflicted by the easily offended gods. However, in these very early times when the cause of a malady was evident and amenable to mechanical treatment the ancients showed surprising boldness and skill. Abscesses were opened with bronze lancets before Abraham's time; broken bones were set correctly, even cataracts were couched, if we interpret records correctly. And most remarkable of all, neolithic man thousands of years before the period of the first written documents, performed trephining as neatly and efficiently as can be done today. One prehistoric skull shows five circular openings from three to five centimeters in diameter, made at successive periods years apart. The patient had survived them all. One is in doubt whether to admire more the courage of the surgeon or the confidence of the patient when this operation was approached with but a handful of flint chips for complete equipment.

The first record that we have of a bold rebellion against the heavy shackles of fear and tradition is that of the giant intellect of Aristotle, of whom William Osler says, "No man has ever swayed such an intellectual empire in logic, metaphysics, rhetoric, psychology, ethics, poetry, politics and natural history—in all a creator, and in all still a master. The history of the human mind offers no parallel to his career. The creator of the sciences of comparative anatomy, systematic zoology, embryology, teratology, botany and physiology."

From the time of Aristotle the character of medicine changed, but it was by no means a

steady progress, for thinking is a rare function of the human mind. Having made this statement so frankly, I believe I had better entrench my position in anticipation of the counter attacks invited. I would define thinking as the process of drawing just conclusions from observed facts and assume cheerfully that I make no pretensions whatever of doing any more of it than any other man of my inches. To resume. From the time of Aristotle some 800 years forward until, and through the dark ages, there were here and there, in an ocean of superstition and ignorance, men who thought while they studied the basic medical sciences. (How clearly Aristotle had perceived is shown in his statement, "Health and disease also claim the attention of the scientist and not merely the physician, in so far as an account of their causes is concerned").

The great names are familiar to us all. Prayagoras and Herophilus of the Alexandrian school; Galen of Ionia, Ancema of Arabia, and with the rise of the universities in the thirteenth century, Paracelsus, Roger Bacon, Vesalius, Harvey. Each man added to knowledge because he drew just conclusions from observed facts.

* * * *

The enormous expansion of the sciences in the nineteenth century has given so vast a wealth of facts upon which to base conclusions that an unprejudiced observer (one free from the peculiarities of the human mind) might say there was little possibility of diverse opinions. But let me mention for your consideration the anti-vaccinationist, the Christian Scientist, the enthusiastic chiropractor, and our brother, the devotee of the thirtieth dilution. We, the elect, who, of course, hold the only true light should not be too acid in our attitude toward those who are honest, though erring. We may be both unwise and unkind. The late medical historian, Dr. Payne, remarked: "The basis of medicine is sympathy and a desire to help others and whatever is done with this in mind must be called medicine. Dr. Camp, in his brilliant paper, read recently before this Society, reproved our hidebound complacency in scorning the valuable aid of suggestion which the Christian Scientists have used so efficiently to their satisfaction and our discomfiture. Not all of our patients have the sturdy character of the fine old man who called me after a series of treatments from an osteopath, and paid me the compliment of saying he preferred to die in the hands of a gentleman rather than survive in those of a fool. There have been cults and fads throughout history. The human mind has changed little in the last 6,000 years, nor is it likely to change more in coming centuries. We are always prone to break away from the stony

beaten path of the hard won cumulative knowledge of the race to follow the fascinating ignis fatuus of any extravagant idea plausibly flashed in our dazzled eyes. This is human nature, and by no means applies to medicine alone. Finance and politics are amply provided with what Roosevelt called, the "lunatic fringe." But, as Dr. Camp has pointed out, it will be well for us to examine with an unprejudiced eye any fad that has contented many people, and to make honest use of its armamenta (armamentarium).

It is to give and take on both sides, for the Christian Scientist has concluded to die since the passing of the founder of that faith, and of late his call upon us to replace them. In the future he may be able to recognize the difference between a suppurating wound and a clean one; and then perceive a pathogenic micro-organism as an existing entity; and finally confine his practice to those cases of psychic disturbance in which he is notably successful. All one idea cults begin as a very narrow and acute conception. One might represent them graphically by a line rising very rapidly from the abscissa and then descending as acutely. As time goes on, facts, which are stubborn things, broaden the base and if the area of the graph, which represents the truth of the idea, remains the same—the ordinate of the apex comes down—the curve flattens out. The broader grows the base of facts, the less does the top of the hill rise above the general level of truth and in the course of time it sinks close to the line of our common concepts. May I apply this analysis to homeopathy, which we recall began in a very strictly limited application of the idea of *similia similibus curantur*; but today we are unsurprised when our brother prescribes five grains of acetyl sal, or a quarter of morphine. And, on our side, we seldom give with the felicity of our grandfathers, a teaspoonful of calomel. I, myself, have sometimes conversed with the professed and self-acknowledged homeopath and found him like Kipling's soldier:

"We ain't no thin red heros
We ain't no blackguards too,
But single men in barracks
Most remarkable like you."

I am informed that the Still College of Osteopathy offers a four years' course to the prospective graduate, and that the found practices, or did practice, surgery; and my amour propre was given a severe jolt a week or so ago when a practical nurse informed me that an osteopath told her he was prepared to care for obstetric cases and desired her to refer such to him. Can it be possible to destroy this monster of iniquity by boring from within? Could it be conceivable to put a real bacteriologist, a real anatomist, and a real physiologist into the chairs of an osteopathic college and infect the

unsuspecting students with actual facts, with the hope that he might draw the conclusions that smallpox was not necessarily the result of an aberration of a lumbar vertebra to which the X-Ray was blind? And, on our side, can we burden the already appalling curriculum of our schools with a chair of massage and train an adequate corps of masseurs to carry out our prescriptions for the benefit of those helped by this form of treatment, and add one more specialty to the fecund brood that multiplies faster than the dragon's teeth that Jason sowed?

The problem of specialization is becoming formidable. We have already a vast amount of what might be termed specialized knowledge. I would apply that term to the refinements of technique and information that are beyond the scope of the general practitioner. This latter gentleman is being spread pretty thin in an endeavor to cover adequately the ever widening empire of medicine and his elastic limit being appreciably less than infinity is likely to cause a rupture in some part that will result disastrously. The obvious answer to this is that the general practitioner should limit himself to the area which he can cover—but when he does that, becomes a specialist and we are just where we started unless we agree that the general practitioner shall join the dodo in extinction. A possible solution of this imposse may lie in the development of group practice which has many features to commend it, but like every other good thing in this world, lacks absolute perfection; one defect being the frequently mentioned loss of intimate relation with one's own physician who is "guide, philosopher and friend, whose personality more than compensates for his castor oil, and whose presence may cure more than his quinine." Another obstacle is the increased cost to the patient of multiple consultations and diagnoses. Nevertheless, group practice, formal or informal, appears to me inevitable whenever "two or three are gathered together," and if we are to do just to our patients and ourselves. It is, of course, impossible in the sparsely populated districts where the lone physician will continue as in the past, to cover many miles between midnight and midnight, diagnosing and treating everything from abscess on the first page, to zymotic disease on the last, as best he may. He occupies the first line trench and cannot be as precise and scientific in his fight as the heavy artillery at headquarters in the rear.

The little community hospitals springing up in the small towns will be a large factor in furthering group practice. The hospital is the natural center and meeting place of physicians where the tendency to invite consultations is almost automatic. This is a highly salutary tendency and a practice which should be encour-

aged. The tremendous advantages of a hospital can be best appreciated by one like myself, who has spent the better part of a professional lifetime without it. Some of the laity, in fact, are regarding the hospital as a sort of impersonal general practitioner, and present themselves there for treatment and advice without the formality of consulting previously any physician. They do even better. I was told that a mother called the hospital by telephone and asked that a nurse be sent to see her sick child. The superintendent suggested the advisability of calling a physician and received the naive reply that she had one, but would be better satisfied if a nurse from the hospital take the case. The institution which has established such confidence in a community surely justifies its existence. The transition to group practice by the aid of the hospital is easy when the physicians will specialize according to their number, and the needs of the community co-operating as a unit to the best advantage of all. I should be very glad to hear from some of those who have had actual experience in group practice.

Specialization is not a modern development. Herodotus, referring to the Egyptians, said that the country was full of physicians—"one treats only the diseases of the eye, another those of the head, the teeth, the abdomen, or the internal organs." It would be interesting to compare the curriculum that was laid out for the student in those days with that of the present, and estimate that of the future. A few months ago, the professor of mathematics at Perdue told me that at mathematical societies even the titles contained expressions he had never heard of. We have not gone that far in medicine as yet, but I confess to having frequent and sometimes futile consultations with the dictionary when reading some of our medical papers. I think we may anticipate the time when it will be imperative for a student entering upon a medical education to have a definite specialty in view because he can no longer, like Faust, "have all knowledge for his province." We have mechanical, electrical, chemical, civil and sanitary engineers who make no pretension to even a bowing acquaintance with one another's fields of work. Are we to come to the point where we must cast overboard the fundamental axiom that no man may specialize until he has mastered general medicine?

What sort of warped treatment will be advised by the gastrologist of the future whose cimmerian darkness lies north of the diaphragm? Perhaps by that time we will have determined long before his graduation, just how and when he will graduate. In my day, all children at 6 were fit to enter the first grade, and all youths at 14 were prepared to enter the

high school. It is true that here and there hitches occurred in the pleasant simplicity of this program of the nineteenth century, and, stuck fast in the lower grades were found adolescent bumpkins, from whose thick cranium the multiplication table bounced harmlessly like hail from the shingles, much to the perplexity and confusion of the educators. Since that day it has dawned upon us that mental capacity cannot be accurately gauged by age alone.

Psychologists, teachers and physicians have been occupied with contriving scales, more or less accurate, for testing mental capacity and applying them with surprising and disconcerting results. This, I believe, is breaking ground in a highly important direction. A vast amount of energy and time have been wasted and a flood of woes inflicted upon children in the effort to sift coarse and fine through the same educational mesh. Here is a new specialty. Let us imagine a clinic directed by a medical graduate who is a psychologist, with a staff, part of whom are trained in physical diagnosis, and part of whom are trained in the application of a comprehensive and accurate system of mental tests. The child, say at 6, is examined in this clinic and the course of study—and physical treatment, if necessary—prescribed for the year. At 7, re-examination and consideration of the progress of the past year may be the basis of the prescription for the following year, and so on, at such intervals as experience dictates. In the more densely populated areas—cities, groups could be formed of those holding similar prescriptions with some expectation of uniform results in education which should be commensurate with the effort expended upon them.

This should get the most out of the material available with the least effort. But, will such a system be practical and will it be worth the trouble? Another advantage might be derived from such a system. Dr. Jacoby, psychiatrist of the Detroit recorder's court, spoke a few weeks ago in this room. He parallels the care of the criminal with that of the insane, considering both as manifesting "abberations of behavior." Proper examination may possibly indicate criminal tendencies in those who have never committed crime and give opportunity for prophylaxis. It is certain that the present legal treatment is woefully inadequate in the care of the "abberation of conduct" after it is full blown. Dr. Jacoby's suggestions are startling at times, but no more so than the facts upon which he bases them. I believe he is a pioneer in a field of almost unbounded possibilities, and that a great task of the psychiatrists will be to remodel the medieval methods of our present-day handling of crime and criminals. Our own profession may be conservative, but in comparison with legal procedure, cramped

as it is by paralyzing precedent, we are progress itself. There are valid arguments for supporting the view that criminal tendencies, as well as insanity, are due to physical causes. If crime is analogous to insanity, it is certainly the privilege and the duty of the medical profession to study and handle it. Can we look forward to judicial authority being invested solely in the medico-legal psychiatrist, educated exclusively for his peculiar career?

We are looking far into the future. One more step before I close. We agree that in general, prophylaxis is preferable to cure. Can we in trust to our new judicial authority the task of abolishing criminal tendencies and degeneracy; eliminating the criminal, the degenerate, and the feeble-minded entirely from the body politic by definitely preventing reproductions in all these classes?

In the opinion of this group of medical men, what would be the race in 500 years if the whole lower tenth—the tenth lowest in physical and mental capacity in each general, were eliminated from reproductions?

THE RELATION OF EDENTULOUS JAWS TO SYSTEMIC DISEASE

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ETIOLOGY

Improper removal of abscessed teeth may be considered the etiological factor in the majority of cases of infected jawbone. Failure to remove the abscessed sacs and surrounding infected bony and soft tissues at the time of tooth removal is also a factor. Abscessed teeth which are extracted by the method which is used by the majority of dental practitioners, viz.: "pulling" of teeth and little or no effort made to remove the necrotic bone or abscess sacs; latent jaw infection is almost inevitable. The gums in some cases are slow to heal over, but eventually the necrotic jaw is covered by healthy pink overlying tissue. The patient has had the teeth extracted with the hope that it may benefit his bodily complaint and in some cases the symptoms disappear for a time and sometimes disappear entirely, only to manifest themselves in another part of the body. This is due, probably, to the fact that the infection is stirred up and it automatically produces an autogenous vaccine. The patient may have a definite manifestation due to focal infection, but when the teeth have been extracted we generally feel that we should not consider the

toothless areas as factors in his complaint. The failure to remove portions of roots at the time of extraction is also a frequent cause of systematic manifestations. Failure to recognize and properly treat maxillary sinus infection which may be a primary or a contributing factor in the production of the jaw necrosis should not be overlooked.

PYORRHEA

The same may be said concerning teeth where pyorrhea is present and in the moderately advanced stages and where the teeth have been just "pulled" and the adjacent abscessed bone and soft tissues have not been removed and properly drained. The X-ray is a valuable aid in suggesting to us the extent of the bone pathology around the abscessed teeth and the teeth affected with pyorrhea, but too much reliance cannot be placed on the same. The patient's history is very important. The laboratory tests should be summed up before we arrive at a tangible diagnosis. Syphilis, sinus infection, ulcerative stomatitis, pyalism and industrial diseases should be borne in mind when searching for the etiological factors.

SYMPTOMATOLOGY

Generally there is no local manifestation of pain at the site of the focus in the jawbone. In some cases there is soreness on pressure, and in a few cases pus may be seen discharging from a sinus which communicates with the underlying bone. In many instances healthy gum tissue covers the insidious infection which, to all outward appearances, is benign. We may find a patient suffering of neuralgia, migraine, rheumatism, insanity, chronic appendicitis, hypo or hyper-thyroidism, cardiac lesions, gastric ulcer, etc., and these same pathological changes may be due to focal infection. Empyema of the sinus may manifest itself by local pain, tenderness, migraine, neuritis or toxemias, discharging nose or the coughing up of pus after a night's rest.

PATHOLOGY

After a flap of overlying soft tissue and periosteum is laid back, the jawbone may present a circumscribed area of soft necrotic bone tissue. Generally there is no evidence of pus in or around this area. In our experience the cultures from this bony tissue will return from the laboratory as a streptococcus veridans in practically every instance. Occasionally there is a mixed infection where pus is in evidence. Some areas of necrotic bone are covered by a thin plate of apparently healthy bone and upon chiseling through this plate very frequently the diseased area may be found. Microscopic findings show this diseased tissue to be a mixture of broken down alveolar process, bacteria and detritus. In some cases of infected jawbone the area extends to an adjacent sinus. These sinus

*Presented by Dr. Teifer at the Boston meeting, A. M. A., June, 1921—Section of Stomatology.

infections which may be negative when X-rayed, frequently, at operation, show pus droplets hanging from the walls and the lining membrane partially or totally destroyed.

Dr. Novitzky of San Francisco, recently informed me that Dr. F. E. Blaisdell, director of the laboratory of surgical pathology at the Medical College of Leland Stanford, Jr., University, and himself, completed some very interesting research along the line of bone pathology. The summary of their results is as follows:

"Drainage from a dead root-end could be considered as discharging directly into the blood stream. Fibrous marrow was found underlying all dead teeth examined. Microscopically a diagnosis of Myelitis was always obtainable, while commonly a diagnosis of Osteo-Myelitis was obtainable. The fact that fibrous marrow was present apically and not gingivally, indicates that the irritation producing this scar tissue emanated from the apical part of the root, that is, the apical foramen. In other words, the irritant did not gain access to the marrow thru the gum flap of the mouth. If it did gain access in this way we would expect to see fibrous marrow in all cases near the gingival margin. It cannot be argued that fibrous marrow is due to caustic medicaments inserted into the root canal during dental interference, for it has been demonstrated by others, as well as observers at Stanford, that fibrous marrow is due to a permanent irritation (infection) and not to a transient trauma.

"Fibrous marrow will be absorbed and normal lymphoid or fatty marrow restored where infection is not present. A nail driven into cancellous bone will cause the formation of fibrous marrow. If asepsis is maintained the fibrous marrow is converted into normal marrow. This indicated that fibrous marrow at the root ends of dead teeth is due to re-infection and that it is not due to trauma of dental manipulations or of caustic medicaments used during these manipulations."

From the foregoing it is only reasonable to conclude that if the infection adjacent to infected teeth in the bone, sinuses, or soft tissue is not thoroughly removed at the time of the removal of the teeth, or at time of operation for the removal of infection in the jaw or sinus, a chronic irritation is inevitable and fibrous marrow develops in the stead of normal fatty or lymphoid marrow. This chronic irritation (infection) communicates with the blood stream and an organ or organs of lowered vitality are susceptible to metastatic infection, and an arthritis, hyper-thyroidism, gastric ulcer, etc., may be the result.

DIAGNOSIS

A complete case history should be taken on every patient in which we are endeavoring to find the underlying factors in the causation of his disease. This case history should also cover the nature of the dental work; whether the patient has had abscessed teeth or dead teeth removed; the method of removal; whether he has had an acute abscess of a tooth or teeth where the side of the face has been swollen; whether the patient has any recollection of roots having been left in the jaw; the nature of his occu-

pation reference to the industrial diseases; X-rays of both jaws, including areas where teeth have been extracted; whether the patient discharges pus from his nose or coughs up pus in the morning, and by asking the last two questions we will have special reference to sinus infection; the blood counts should be taken; Wassermann tests made; blood sugar tests, and the other routine laboratory measures should be used. When a patient gives the history of having an acute abscess in his jaw and whether or not the tooth has been extracted, you may be reasonably sure to find a myelitis or osteomyelitis in the jawbone around or near that location, even though the X-ray pictures do not suggest the same. In the majority of these cases an exploratory operation will disclose the area. If the same is not evident after laying back a flap of the overlying soft tissue a thin plate of the alveola should be chiseled away and frequently the area will be found by this procedure. We feel justified in using the exploratory method and will attempt to convince you of its therapeutic value.

TREATMENT—SURGICAL

Local or general anesthesia may be used. In local anesthesia the more satisfactory forms are the conductive and infiltration methods. After laying back flaps of the soft tissues the area is generally easily located. If it is not in evidence the bone should be carefully percussed to try and ascertain the location of the necrotic area. In a large series of cases we found 50 per cent of these areas are covered by apparently normal bone.

We feel justified in chiseling the outer plate in the region that is negative on X-raying when the patient gives a history of an acute abscess. No harm will be done if the toothless areas is healthy for the alveolar process will regenerate.

Careful rongueing and curettment should be done, making sure to clean out all of the pathological bone. The operator should not be timid and depend upon the "feel" of the curet to satisfy himself that he has entirely cleaned out the infected area, but should freely expose the area and be sure that he has accomplished the removal of ALL the infection. The area should be carefully probed to determine whether there are any pockets or extensions of the infection. The soft tissues of the flap are then loosely sutured and this will allow sufficient drainage and the wound will generally heal by first intention.

SUMMARY

Improper removal of abscessed teeth is the etiological factor in the majority of cases of edentulous jaw necrosis. Maxillary sinus infection may be a primary or a contributing fac-

tor in the production of jaw infection. The X-ray is valuable aid in suggesting the extent of bone pathology; but too much reliance should not be placed on same. Generally there is no local manifestation of pain at the site of the focus. Some areas are concealed by an outer layer of normally appearing bone. A complete case and dental history should be taken and necessary laboratory tests made. X-rays should be taken of both maxillae, including the edentulous areas. Not infrequently the cause of toxemias of indefinite origin may be found in toothless areas in jaws.

REMARKS

Whether or not the foregoing results were co-incidents or whether my listeners consider this phase of pathology of 'sufficient import to add to their diagnostic armamentarium is problematical, but it is our sincere wish that latent bone infection in the jaws be given some consideration, and the end results may surprise you when you have searched in vain for a cause of a disease.

The following are a few selected case histories:

No.	Sex	Age	Condition	Mouth	Treatment	Result
1	Female	32	Neuritis and Neuralgia. Intermittent for one year.	Edentulous—3 abscessed teeth "pulled" 3 years ago. X-ray suggests bone involvement at site of extraction extending to antrum.	Flap operation — necrotic areas eliminated and antrum drained by oral route.	Relief of all pains instantly. No recurrence in 2 years.
2	Female	60	Migraine (Intense)	Edentulous—2 abscessed teeth extracted 15 years ago. X-ray suggests necrotic areas at site of extraction.	Flap operation — areas of infection eliminated.	Relief in two weeks. No recurrence in 2 years.
3	Female	21	Facial Neuralgia and Neuritis of right shoulder.	All teeth vital—no pyorrhea. Acute abscess of 2 teeth 10 years ago. X-ray suggests infection at sight of one abscess, other area negative to X-ray.	Flap operation — disclosed necrotic areas at both sites. One negative to X-ray was covered by normally appearing bone. Infection eliminated.	Symptoms disappeared in 12 hours. No recurrence in 18 months.
4	Male	19	Insane, for 1½ yrs.	Two abscessed teeth and necrotic area. Acute abscess and extraction 5 years ago. X-ray suggests bone involvement.	Flap operation — Teeth surgically removed and bone infection eliminated.	Gradual improvement in 4 months. No mental exacerbations in 2 years.
5	Male	42	Iritis and Conjunctivitis intermittently for 10 yrs.	Edentulous mouth. Acute abscess and extraction 10 years ago. X-ray suggests bone involvement at site of extraction.	Flap operation — Necrotic area eliminated.	Symptoms subsided in 10 days. No recurrence in 2½ years.
6	Female	45	Pyro-Nephritis and Gastralgia	Two abscessed teeth. Necrotic area at edentulous site of acute abscess 4 years ago.	Flap operation — Surgical removal of 2 teeth and necrotic area eliminated.	Gastralgia relieved in 3 days. Urine cleared up in 4 weeks. No recurrence in one year.
7	Male	47	Gastric Ulcer	X-ray suggests large tumor under bridge in superior maxilla. Abscessed tooth extracted 4 years ago.	Flap operation — Large cyst removed intact. Bridge not disturbed.	Symptoms subsided in 2 weeks. No recurrence in 2 years.

SIGNIFICANCE OF APPENDICEAL STASIS AS DEMONSTRATED BY THE BARIUM MEAL

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By far the most important factor in the causation of appendix disease is the disturbance of the function of this structure of expelling its contents. Theoretically, an appendix with normal motility would never become involved in an inflammatory process. Therefore appendiceal stasis becomes the center of

interest in the examination of the gastro-intestinal tract with reference to the ileo-caecal region. Of almost equal interest is the association of evidence of disease of the appendix manifested by appendiceal stagnation with the symptom complex of chronic indigestion. There is a very definite relation between abnormal appendix motility and pyrosis, gastric hyperacidity, gastric and duodenal ulcer and constipation, especially of the spastic type.

If I am correct in these statements, the Roentgenologist has a great responsibility when he interprets his appendiceal findings in clinical terms and when he makes recommendations

as to the treatment of the case indicated by the findings.

Consideration of this topic involves the study of the literature pertaining to the anatomical, pathological and physiological aspects of the appendix. All English, French, German and American articles for several years have been referred to: I have gathered from this extensive review:

1. That we do not know whether the appendix is "an organ of physiological involution terminating in obliteration" (1) or whether it is a lymphoid structure with a function analogous to the tonsil.

2. We do not know whether normally Gerlach's valve prevents the entrance of caecal content into the appendix lumen or whether it is quite proper for the appendix to fill by regurgitation from the colon and to take its time in emptying itself.

3. We do not know whether the appendix is concerned with any of the functions of the colon—such as the secretion of Hormones, which control the colonic peristalsis—or whether it functions as an "abdominal tonsil" or whether as an abdominal ductless gland related to the pancreas (2) or whether it is merely a rudimentary or vestigial organ with no importance in maintaining bodily health, and.

4. We do not know the exact degree of pathological change that constitutes a "clinical or surgical appendix."

However, from Roentgenological observation and clinical experience, and, with many of us, from personal experience also, we are certain that the whole question of appendix disturbance is bound up with the diagnosis of abdominal organs more or less remote from the appendix.

It is with this relationship that I wish mainly to deal in this paper, both from the standpoint of diagnosis as well as treatment. And in addition, I wish to point out the value of gastro-intestinal studies in infants and children, and that the use of the opaque meal for this field has been overlooked by both clinicians and Roentgenologists alike.

Regarding the vehicle for the administration of the opaque salt with reference to the filling of the appendix, much has been written. George and Leonard believe that buttermilk should be used when appendiceal motility is to be investigated and Skinner supports them in this contention. Our experience includes buttermilk, malted milk and cereals as vehicles, and it is our belief that the appendix fills equally well with either mixture. For the past three years we have used malted milk almost exclusively and it is rarely that we do not observe some barium in the appendix at some time during the study. On a recent afternoon in making the five-hour study, appendix filling was observed in seven consecutive cases.

As to the mechanics, or method of filling the appendix, the entrance of barium into the lumen cannot always be accounted for by gravity or sedimentation, because, in many instances, the appendix lies above the caecum, or, at least, its

long axis is so placed that the distal portion of the appendix is higher than the proximal. Early filling in the adult can be accounted for by the anatomical relations, but late filling involves the question of anastalsis, or reverse peristalsis. The proximal portion of the large bowel is the only portion of the gastro-intestinal tract which normally has antiperistalsis, and it is because of this movement that the late filling of the appendix occurs.

There is a wide discrepancy in the conclusions drawn as to the clinical or pathological importance of the presence of barium in the appendiceal lumen. Theoretically, the normal appendix should not fill, and for a good anatomical reason, for its opening is protected by a valve, described by Gerlach, which prevents the regurgitation of the caecal contents into the appendix, but permits free passage in the reverse direction. It is the opinion of most Roentgenologists that, in the majority of patients given the barium meal, the appendix is visualized at some time during the observations and that the appendix is not necessarily diseased if barium is found in its lumen. Of far greater importance and of real value is the time, in relation to the ingestion of the barium, that the appendix begins to fill and also the degree of stagnation and the associated pain and tenderness.

In the writer's experience, appendices showing low grade disease usually can be visualized at the second observation, or the five hour study. The visualization of the appendix at this time becomes possible only through careful palpation, for, in the majority of cases, the caecal tip and the appendix region are obscured by the barium in the overlying loops of small bowel.

In a larger percentage of cases, the appendix can be seen at the 24 hour study, and in a much smaller number of cases, the appendix is seen for the first time at the 48 hour study. Barium escapes from the appendix by virtue of its own peristaltic action. When the appendix fills early, the rule is for early emptying. So, of the appendices which are observed on the five hour study, few can be visualized at the end of 24 hours and only rarely one after 48 hours, whereas, of those that are seen outlined with barium at the 24 hour study, many are seen at the end of 48 hours and in those in which the appendix is seen first at 48 hours, stagnation may continue for several days, or even weeks.

There is, therefore, a direct relation between the filling time and emptying time, the curves paralleling, and also a constant relation between the variations of filling time and the degree of pathological changes.

At this point the method of study should be discussed. A correct gastro-intestinal exam-

ination can be made only by using both the screen and plate methods. Plate methods permit of demonstrations of variations in the filling of the lumen, the presence of constrictions or concretions and the differentiation between a large appendix or a loop of terminal ileum. The fluoroscopic method enables one to determine the degree of mobility, to separate the several structures in the ileo-caecal region and to determine with accuracy the organ involved in the right lower quadrant pain and tenderness.

While pericaecal tenderness is not necessarily a constant symptom in appendicitis, pain or discomfort on manipulation is a very common sign. This is especially true in the presence of adhesions or in distention of the lumen. We have classified appendix filling without pain or tenderness as a simple stasis and we have observed that this type of disturbed motility is usually associated with the ordinary gastric hyperacidity without evidence of a gastric or duodenal lesion. If the mere presence of barium in the appendix is not positive evidence of disturbed function or actual disease, it certainly suggests that sooner or later inflammatory changes will ensue, for conditions favorable for development of infection are present, such as an injured mucosa, congestion and other circulatory changes and fibrosis of the appendix walls. One writer has likened the appendix showing stasis to a culture tube with all conditions favorable to germ growth.

Some one has said that chronic appendicitis is always of infantile or early childhood origin and as we study more the gastro-intestinal tracts of the young with a barium meal evidence is accumulating that this observation is correct. Waller (3) and Cole in 1915 made investigation of the prevalence of subacute or chronic appendicitis in children and reported as finding 60 per cent showing signs and symptoms of appendix disease. In children with a history of biliousness or liver trouble, with gaseous distention of the stomach and bowels, or with a record of abdominal cramps or distress, we have usually found appendiceal stasis and at times localized tenderness. Furthermore, in a number of these cases, appendectomy has been done with a relief of all symptoms.

The youngest case in our series was a child of 2 years. There was a history of attacks of abdominal cramps and no other symptoms. A small opaque meal was given. The appendix filled and remained so for 48 hours, with the caecum empty. Appendectomy was done, with complete control of the symptoms.

The procedure of the examination of the child does not vary from that used with the adult. One ounce or less of barium is sufficient and any liquid vehicle is satisfactory.

Variations peculiar to children in the relation of the appendix and caecum, referred to by a number of authors, in our opinion do not exist. We have found that the position of the appendix varies from McBurney's point similarly to that in the adult and that the filling and emptying time variations parallel the adult figures.

There is a very positive relation between the appendiceal stasis and gastric hyperacidity. Formerly increased acidity was considered diagnostic of ulcer, or at least it was strongly suggestive, but it is now known that ulceration of the stomach is relatively rare and that a high acid content means some reflex irritation from a more or less distant lesion or from disturbed function lower in the intestinal tract. The mechanism of this relationship will be discussed later.

The frequency of the co-existence of both duodenal ulcer and chronic appendix has often been noted. In our own series, we have observed the double lesion in about 40 per cent of our ulcer cases. Statistics from the Mayo Surgical Clinic show that in over 30 per cent of their duodenal ulcer cases a diseased condition of the appendix was found. As to the explanation of this observation, it is necessary to accept one of two theories. The first is that many ulcers of the duodenum are secondary to metastatic infection from the appendix as a primary focus. The second explanation and the more reasonable one is concerned with the sympathetic enervation of the gastro-intestinal tract and with the gastro-intestinal motility expressed by the term Intestinal Gradient (Alvarez).

Keith has studied the intestinal musculature and nerve tissue in detail, and has developed the theory that "the bundle system of the heart and myenteric plexus of the intestine represent corresponding functional structures." He maintains that a myenteric (Aubach) plexus is not a simple structure composed merely of nerve cells and nerve fibers, but that it is a complex structure with ganglion cells and branching intermediate cells which appear to connect certain groups of muscle cells on one hand and ganglion cells on the other hand. Keith also advances the theory of the presence of sphincteric zones located at various anatomical junctions along the gastro-intestinal canal which control peristaltic activities. The zones are seven or eight in number, and one of them is in the ileo-colic region. Irritation at any of these zones interferes with the intestinal rhythm and spasm is the most common result. There is plenty of Roentgenological evidence that lesions in the ileo-colic region have a profound influence on the musculature of the stomach and duodenum. Pylorospasm, with undue gastric retention, is a common observation.

Under the fluoroscopic screen, the pylorus has been seen to become spastic under manipulation of the appendix. Aaron, in 1915, made a similar observation clinically. And spastic deformities of the duodenum are almost as common as the organic variety and in some cases with well marked appendiceal disease it is quite impossible to properly fill out the duodenal bulb. Now spasm, in addition to mechanically interfering with the gastric and intestinal motility, disturbs the blood supply to the part irritated, and thus favors the development of ulcers and other lesions.

This brings us to the consideration of the clinical importance of chronic appendix in its relation to the treatment of duodenal ulcer. Since the condition of the appendix is reflected so prominently to the pyloric region of the stomach, influencing strongly both secretion and motility, and since the whole management of duodenal ulcer cases is concerned with the control of gastric secretion and gastric evacuation, it is obvious that any treatment of the duodenal ulcer which does not involve the eradication of a condition which so profoundly affects the reaction of the gastric contents will be futile.

For more than 10 years we have studied from the Roentgen standpoint the progress of the healing of duodenal ulcer under medical treatment, and we have come to the conclusion that it is not possible to properly control duodenal ulcer in the presence of a diseased appendix or in the presence of spastic constipation, and in cases showing these complications we have suggested that indications for treatment from the Roentgen standpoint would be appendectomy and measures to restore the normal function of the colon, in addition to the treatment of the local lesion itself by the Sippey regime.

Colonic motility is strongly influenced by the appendix, if not entirely controlled from the ileo-caecal region. The reaction may be evidenced both by increased or decreased colonic peristalsis, depending upon the type of disease present in the appendix. If the appendix is adherent or obliterated, its mobility is impaired, and as a result there is no peritoneal reflex and constipation is the result. On the other hand, if the appendix is extremely mobile, the result is peritoneal excitability and consequently acceleration of the bowel movements, even to intermittent diarrhea. However, there are cases of appendix stagnation which appear to be merely secondary to conditions of the caecum, more especially when the relations are disturbed. A ptotic, club shaped caecum or a dilated caecum is often the predisposing factor in appendiceal stasis. In these cases, measures to relieve the underlying factors should be carried out, for appendectomy will not cure the patient.

That is, the appendix findings may be signs only of impaired colonic motility. Just as attention to the appendix is necessary to the treatment of gastric and duodenal conditions, so will many cases of constipation or diarrhea go unrelieved as long as the right lower quadrant disease is neglected.

The percentage of patients with clinical and other evidence of appendix disease not relieved by appendectomy is considerable. Gibson (4) reviewed 555 cases and reports that of this number 259 had no complaints, 65 had no symptoms referable to the appendix and 102 showed no improvement, while 126 were not traced. Thus there were over 20 per cent, at least, who had a condition aside from the lesion in the appendix. Leaving out of consideration the occasional case in which urinary calculus or renal pelvic disease is responsible for the symptoms and also the rare cases when the symptoms of lumbosacral lesions simulate appendix disease, the majority of the failures can be accounted for by other lesions of the gastrointestinal tract which were induced by the appendix disease or associated with the appendicitis. In a few cases we have been able to demonstrate an appendix stump which retained unduly the barium and which was painful on pressure. In other cases the caecal mucosa is definitely inflamed, and in still other cases, as mentioned previously, disturbed caecal relations, mobility and motility and lesions of the ileo-caecal region were the primary causes of right lower quadrant symptoms and not the appendix disease itself.

In an article by Bennett (5) there appears an explanation of the persistence of pain in the right iliac region after an apparently uncomplicated appendicitis. It is suggested that this pain may be due to a tonic contraction of the ileo-colic muscle, and Grodel has abolished the pain by incising this muscle. It should be stated that the ileo-colic muscle has an intimate connection with the appendix through the posterior longitudinal band.

CONCLUSIONS

1. Sub-acute and chronic appendicitis is common in children and barium meal studies are an important aid in diagnosis.
2. Retention of barium in the appendix lumen is always of diagnostic importance, but not always evidence of active appendicitis.
3. Treatment of hyperacidity, peptic ulcers, constipation and other gastro-intestinal conditions requires the removal of the appendix if this structure shows impaired mobility or motility.

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PERSONAL EXPERIENCES WITH INFANTILE PARALYSIS

RAYMOND G. TUCK, M. D.

(Ex. Capt. M. C. U. S. Army)

BROWN CITY, MICH.

In view of the fact that 98 per cent of all cases of antero-polio-myelitis occur in children under 15 years of age, and that 75 per cent of these are under 5 years, the thought came to me that, being a physician, I would be able to interpret signs and symptoms with accuracy.

PAST HISTORY

Age, 29 years; married, one child. Had measles, diphtheria, scarlet fever and was wounded while with the army medical corps overseas. At the time I was wounded a shell knocked me unconscious for some time and since that time have noticed that my nervous system seemed to be abnormal. In explanation I can say that whenever anything exciting happens I am subject to palpitation and shaking all over my body. When things did not go just right with me I would break down and cry without being able to control myself. This did not have any effect upon the infantile paralysis. I merely mention the fact to show that my nervous system was below standard.

CLINICAL COURSE

The predominating symptoms were severe sore throat, pain in lumbar region, pain in abdominal region, headache and hyper-sensitiveness of the skin from "Bouparts" ligament down. These symptoms started on Wednesday and the paralysis became apparent early Sunday morning. These symptoms were very similar to those of the "flu" or, as if one were coming down with one of the infectious diseases. My temperature ranged from 100 degrees to 102 degrees.

The first sign of paralysis was noticed when I tried to climb the stairs late Saturday evening, my legs feeling heavy and tired. When I attempted to micturate, after climbing the stairs, I found this impossible and passed a catheter. Sunday morning it was impossible for me to turn over in bed alone and when I attempted to stand upon my feet my legs were absolutely powerless and would not support my weight. I fell in a heap upon the floor and had to be lifted bodily, back into the bed. All day Sun-

day I was nauseated and vomited fecal matter that night. The most annoying thing with which I had to contend, however, was the great distention from gas. My bowels had not moved since Wednesday.

Monday evening I was taken to the hospital and by patient effort on the part of an orderly my bowels were forced to move. He made use of a large rectal tube, inserting it high up in the rectum. After several attempts I felt something give away low down in the intestinal tract and my bowels moved freely. I am firmly convinced that I had a partial obstruction, or better, perhaps, would be to say temporary obstruction of the lower bowel. The nurse took my temperature about an hour following the bowel movement and it was normal and has remained normal. I really think that I would have continued to grow worse had I not evacuated my bowels. I felt a great deal better and ate breakfast the following morning.

At this time I had an extensive motor paralysis extending from the axilla to the toes, more severe on the right side than on the left. The only motion remaining was flexion and extension of the toes of the left foot. The chest did not show the slightest sign of a rise or fall during respirations, the breathing being entirely diaphragmatic in character. Bowels were moved by using enemata, urine was drawn by catheter. It was necessary to use a catheter for a period of about seven weeks. A most interesting phenomena during this early stage was the gradual recession of the hyper-sensitiveness in the extremities. The interne in the hospital marked this gradual recession by using an iodine swab. It was seen to recede about six inches every 24 hours. The hyper-sensitiveness disappeared entirely by the end of the first week, leaving a muscle soreness upon deep pressure, more pronounced in extensor groups of the leg. I am told, by one who had infantile paralysis 12 years ago, that this soreness in the calves of the legs still persists after all that time. The knee joints were very painful when over-extended. Splints of plaster paris were fitted to each leg, keeping the feet held at right angles. These splints were made similar to a trough and my legs were taken out every day and massaged.

Spinal fluid showed clear with an increased cell count. Wassermann reaction negative. Blood count showed a slight increase in leucocytes. Heart sounds were normal, but my pulse was fast (90-100). Breathing was labored at times, due to so much distention of abdomen. Sleep much disturbed. The medication given at this time was uritone intravenously, codiene sulph. grs. one every night.

PROGRESS

"The changes begin, as can be studied in

experimental animals and in the cases which end fatally in the early stages with hyperaemia of the pia and of the blood vessels which pass into the cord through the anterior fissure and with the accumulation of lymphocytes and polymorphonuclear leucocytes about them. This process quickly extends into the substance of the cord, and not only into the gray matter of the anterior horn cells, as was formerly thought, but everywhere the small arteries and venules are found surrounded with a mantle of such cells. Many writers try to show that the mechanical effect of the inflammation causes the injury to the ganglion cells, but it seems more probable that it is the direct result of the presence of the infective agent."

This same pathologist also points to other very interesting changes, namely: Minute focal necroses of the liver cells with an accumulation of lymphocytes. The lymph glands are also affected with this necrosis and resemble closely the glands in typhoid fever. Cloudy swelling of the liver and kidneys is usual. The fact that this disease belongs in the classification of the acute infections is now accepted by most of our leading authorities.

It is a known fact that during epidemics many persons are infected, but not all have the attending paralysis. This explains why so many do not contract the disease as they have, perhaps, had it at some time previous and have an established immunity. That it is spread by contact also seems to have been proven and in my own case I am sure that I contracted the infection from one who was coming down with it. The person with whom I came in contact died a few days following and her case was diagnosed by one of recognized standing as an internist. I became afflicted about one week or ten days following this contact with the disease. A mild epidemic was noticed in that section of the state.

Just as soon as the soreness had left my legs enough for me to stand gentle massage I was given physio-therapy, which consisted of heat applied to the affected parts by using a thermo lamp and Burdick baker, after which massage was given very gentle at first, and gradually increasing the pressure. Following the massage each muscle was caused to go through the normal movements, being aided by the attendant or aide. The massage was given with the motion at all times towards the heart with the object in view of emptying the veins and they would then receive a fresh supply of blood and give more nourishment to the afflicted parts. The muscles that had very little strength were assisted in going through their movements by the aide and after a few weeks strength could be seen returning to the muscle and it would function without assistance. These exercises

were repeated 10 times every day. A feeling of restful fatigue was experienced following each treatment. Muscle tests were conducted once every three months and where one group of muscles showed stronger than their opposing group the opposing group was given more massage and exercise until they were as strong as the other. An example of this was when the extensor group of the legs became very strong and had a tendency to keep feet extended, but by patient effort and repeated exercise the flexors began to regain their strength and overcome the pulling of the extensors. While this was going on the extensor group were not allowed to exercise.

The abdominal muscles were constantly on the stretch while I was prone in bed and did not show much sign of returning to function until after I had begun sitting up and taking the stretch off them. This showed that any muscle that is allowed to remain constantly on a stretch will never return to normal and in the management of a case this should always be avoided. Get the patient sitting up in bed just as soon as it is possible, as this prevents the patient from becoming so debilitated. The friction of the bed clothes made it impossible to adduct or abduct the legs, so the aide had to place her hand under the heel of the foot and then I could swing the legs outward and inward. After a few weeks, resistance was applied until I could complete these movements against the resistance of the bedclothes.

I was advised against weight bearing during the first year and tried to follow this advice, although it was quite trying at times not to endeavor to walk. At first I only touched my feet to the floor and then after a week or two put a little more weight upon them. Then, when the legs got accustomed to bearing my weight, I tried taking a few steps along the side of the bed. After about one month of walking along the side of the bed, once a day, I had made a frame of gas pipe with castors underneath and by holding onto this frame I walked across the room and back once a day. This frame gave me greater confidence than anything I could have used as it was impossible to fall when walking and that was what terrified me most of anything. The last muscle test showed weak abdominals, weak lumbar and weak right hip groups. Those muscles had always been weaker than the rest, in comparison, and they were all given special massage and exercises every day with the result that at the present time I can walk fairly well, using crutches, and can walk by making use of two canes. This is at the end of the twenty-second months and I am told that the maximum gain is not to be expected until the expiration of three years. I am improving every day and think that by the end of the

three-year period that I will be able to walk almost as well as ever. The back and hip muscles continue to gain strength the more they are exercised. Every muscle in my body shows a return of function and I cannot see why, with increased exercises, they will not return to normal function, or at least almost normal.

COMMENTS

It is not to be wondered at that the people turn first to one physician, then to another, and finally end up with the quack. In my own case one specialist in orthopedics told my wife and friends that I would be bedridden all the remainder of my life. How he knew so positively I am unable to state, yet he was making such a discouraging prognosis without being able to tell exactly how much destruction had been caused in the cord. One thing that cases do need, and need lots of, is optimism.

One other "orthopod" advised immediate weight bearing and as much exercise as it was possible to give. He recommended making use of a bath tub filled with tepid water and overcome the resistance of gravity this way. Another younger man was asked what he thought was the best form of treatment and this is what he wrote:

First of all, prevent deformities from occurring; this is brought about by proper splints. The muscles should be kept in as good condition as possible in anticipation of the return of nerve stimulation. This is done by cautious massage and exercises. One point to remember is to not over-tire the muscles. If you discover, for instance, that you can work your great toe, which has been paralyzed, don't be so tickled that you work it to death, for that happens. Be patient, be gradual, be systematic. Keep the joints supported so that the paralyzed muscles will not be kept on the stretch, then systematically develop the strength of them. This, in a few words, describes what was done in my case.

It seems to me that where there is such a diversified opinion among several recognized specialists concerning a mode of treatment, something could be done to get at the right and wrong of things. For wrong some of them surely are. I am not attempting, far be it from such, to advise my elders in what they should do, but I do wish to advise them that they are all possessed of different ideas concerning the management of a case of infantile paralysis.

If specialists cannot agree upon such a thing, what about your students and general practitioner, who sort of look to these men for guidance and advice. It is the poor unfortunate who has become afflicted, who suffers. I am satisfied that the world would contain fewer crippled and deformed children, were the proper

treatment employed by the profession at large. It surely is time something was done to remedy this blundering.

"THE CLIQUE"

A friendly contributor sends in the subjoined rhyme, which he describes as "not exactly a masterful piece of literature, but a jingle which fits some occasions." It was clipped, but neither its original source of authorship nor of publication are now known.

THE CLIQUE

What is the Clique? 'Tis those who attend
All of the meetings, on whom we depend.
They never are absent unless they are sick—
These are the ones the grouch calls "The Clique."
These are the ones who are never behind in their
dues,
Who come to the meetings and have their own views.
They'll serve on committees and never say die;
"The Clique" are the ones that always "get by."
We all should be proud of members like these—
You can call them "The Clique" or whatever you
please.
They never attempt any duties to shirk—
These are "The Clique," that do most of the work.
But there are some people who always find fault,
And most of this kind are not worth their salt.
They like to start trouble, they seldom will stick;
They like to put all the work on "The Clique."

GRAND RAPIDS

PHYSICIANS

INVITE YOU

TO ATTEND OUR

ANNUAL MEETING

SEPTEMBER 11-12-13, 1923.

ARE YOU COMING?

Program of the 103rd (58) Annual Meeting of the Michigan State Medical Society, Grand Rapids, September 11th, 12th and 13th, 1923

OFFICIAL CALL

The 103rd Annual Meeting, (58th since re-organization) of the Michigan State Medical Society, its Council and House of Delegates will be held in Grand Rapids, September 11, 12 and 13, 1923, for the transaction of official business that properly comes for consideration under the provisions of our Constitution and By-laws.

W. T. DODGE, President.

A. L. SEELEY, Chairman of the Council.

CARL MOL, Speaker of the House of Delegates.

Attest: F. C. WARNSHUIS, Secretary.

MEETING PLACES

GENERAL HEADQUARTERS, REGISTRATION AND EXHIBITS—Pantlind Hotel.

HOUSE OF DELEGATES—Auditorium, Parish House, Park Congregational Church.

MEDICINE—Junior Room, Park Congregational Church.

SURGERY—Main Auditorium, Park Congregational Church.

GYNECOLOGY—Parish House Auditorium, Park Congregational Church.

EYE, EAR, NOSE AND THROAT—Children's Auditorium, Park Congregational Church.

PEDIATRICS—Gymnasium, Park Congregational Church.

PUBLIC HEALTH—United Workers' Room, Park Congregational Church.

REGISTRATION—Pantlind Hotel.

EXHIBITS—Ballroom, Pantlind Hotel.

LOCATION OF MEETING PLACE

Park Congregational Church is located at the corner of Park avenue and Library street, opposite the Fulton street park.

From the Pantlind Hotel, walk east, up Monroe avenue, five blocks until you come to Fulton street. Park Church will be seen, just across the park, on the east. Facing on the park are also the Evening Press Building, the Ryerson Public Library and the Y. M. C. A.

MEETINGS

September 11th.

- 12:00 M. Council Meeting.
- 2:00 P. M. First Session of House of Delegates.
- 7:30 P. M. Second Session of House of Delegates.
- 9:00 P. M. Smoker—Peninsular Club.

September 12th.

- 8:00 A. M. House of Delegates.
- 9:45 A. M. General Meeting.
- 1:15 P. M. Section Meetings.
- 8:30 P. M. President's Reception and Entertainment by the Kent County Medical Society at Kent Country Club.

September 13th.

- 8:00 A. M. House of Delegates.
- 9:15 A. M. Section Meetings.
- 11:30 A. M. General Meeting.
- 1:15 P. M. Section Meetings.
- 4:30 P. M. Adjournment.

HOTELS

Pantlind Hotel—General Headquarters.
Hotel Rowe.
Livingston Hotel.
Hotel Mehrrens.
Hotel Crathmore.
Hotel Cody.

COMMITTEES

ON ARRANGEMENTS—Kent County Medical Society.

EXECUTIVE—General Chairman, Dr. Burton R. Corbus; Chairman of Sub-Committees, Dr. James Brotherhood.

MEETING PLACES—Dr. Alden Williams.

FINANCE—Dr. Frank C. Kinsey.

EXHIBITS—Dr. Verne Wenger.

ENTERTAINMENT—Dr. A. M. Campbell.

LADIES—Dr. Faith Hardy.

RECEPTION—Dr. C. C. Slemmons.

HOTELS AND RESERVATIONS—Dr. F. C. Warnshuis.

AUTOMOBILES—Dr. S. L. O'Brien.

ADDRESSES BY OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION

By invitation of the President and the Council, the following officers of the American Medical Association will be present at our Grand Rapids meeting and will address the House of Delegates at the evening session of the House on September 11th.

Dr. George H. Simmons, General Manager and Editor.

Dr. Olin West, Secretary.

Dr. Woodward, Executive Secretary, Legislative Bureau.

These national officers will have a message that will convey that which our American Medical Association is accomplishing.

GENERAL MEETING

FIRST SESSION

TIME: Wednesday, 9:45 A. M.

PLACE: Main Auditorium, Park Congregational Church.

W. T. Dodge, Big Rapids, President.

F. C. Warnshuis, Grand Rapids, Secretary.

1. Call to Order.
2. Invocation—Rev. C. W. Merriam, Park Congregational Church.
3. Address of Welcome—R. J. Hutchinson, President, Kent County Medical Society.

4. Announcements—Burton R. Corbus, Chairman, Local Committee on Arrangements.
5. Report from the House of Delegates by the Secretary.
6. President's Annual Address—W. T. Dodge, Big Rapids.
7. Address—Honorable Woodbridge N. Ferris, United States Senator.
8. Address—Rev. Alfred W. Wishart, Grand Rapids, Mich.
9. Nominations for President for ensuing year.
10. Resolutions.
11. Adjournment.

GENERAL MEETING

SECOND SESSION

TIME: Thursday Morning, 11:30 A. M.
PLACE: Main Auditorium, Park Congregational Church.

1. Call to Order.
2. President's Remarks.
3. Resolutions and Unfinished Business.
4. Report From House of Delegates.
5. Report on Ballot for President.
6. Introduction of new President.
7. Adjournment.

COUNCIL MEETINGS

The Council will hold the following meetings:

September 11—12:00 M.

September 11—5:00 P. M.

September 12—12:00 M.

September 13—12:00 M.

A. L. Seeley, Chairman.

HOUSE OF DELEGATES

Carl Mol, Flint, Speaker.

F. C. Warnshuis, Grand Rapids, Secretary.

FIRST SESSION

TIME: September 11, 2:00 P. M.

PLACE: Parish House, Park Congregational Church.

1. Call to Order and Roll Call.
 2. Speaker's Address—Carl Mol, Flint.
 3. President's Address—W. T. Dodge, Big Rapids.
 4. Appointment of Business Committee by the Speaker.
 5. Election of Nominating Committee. (See Foot Note).
(No two members to be elected from the same Councillor Districts).
 6. Reports of Committees.
 - (a) Council.
 - (b) Tuberculosis.
 - (c) Civic and Industrial Relations.
 - (d) Legislation and Public Policy.
 - (e) Revision of Constitution and By-Laws.
 - (f) Delegates to the A. M. A.
 - (g) Special Committees.
 - Joint Education.
 - Advisory to State Health Commission.
 7. New Business and Resolutions.
 8. Adjournment to Evening Session.
- Foot Note: Duties of Nominating Committee:
 (a) Nominate First, Second, Third and Fourth Vice Presidents.
 (b) Nominate place for next Annual Meeting.

(c) Nominate Two Delegates and Two Alternates to the American Medical Association to succeed A. W. Hornbogen and J. D. Brook, terms expiring.

(d) Nominate Councillors to succeed following Councillors, whose terms expire:
 Second District—L. W. Toles, Lansing.
 Fourth District—J. B. Jackson, Kalamazoo.
 Fifth District—W. J. DuBois, Grand Rapids.
 Eighth District—A. L. Seeley, Mayville.
 Ninth District—F. B. Holdsworth, Traverse City.
 Tenth District—J. McLurg, Bay City.
 Twelfth District—R. S. Buckland, Baraga.
 Fourteenth District—C. T. Southworth, Monroe.

(e) Supervise Ballot for President.

SECOND SESSION

TIME: September 11, 7:30 P. M.

1. Roll Call.
2. Unfinished Business.
3. New Business and Resolutions.
4. Report of Business Committee.
5. Report of Special Committees.
6. Adjournment.

THIRD SESSION

TIME: September 12, 8:00 A. M.

1. Roll Call.
2. Report of Business Committee.
3. New Business.
4. Report of Special Committees.
5. Adjournment.

FOURTH SESSION

TIME: September 13, 8:00 A. M.

1. Roll Call.
2. Final Report of Business Committee.
3. Unfinished Business.
4. Report of Nominating Committee.
5. Elections.
6. Resolutions.
7. Adjournment, Sine Dei.

DELEGATES AND ALTERNATE DELEGATES HOUSE OF DELEGATES

NOTE—The blackface type that of the Delegates;
 the lightface type that of the alternate.

ALPENA—Branch No. 48

ANTRIM-CHARLEVOIX-EMMETT—Branch No. 41

F. Grillette, Alanson.

Harry E. Shaver, Boyne City.

E. H. Van Leuvan, Petoskey.

R. D. Engle, Petoskey.

BARRY—Branch No. 26

Guy Keller, Hastings.

Fred Andrews, Woodland.

BAY—Branch No. 4

A. J. Zaremba, Bay City.

P. R. Urnston, Bay City.

G. W. Moore, Bay City.

M. Gallagher, Bay City.

BENZIE—Branch No. 59

BERRIEN—Branch No. 50

Robert Henderson, Niles.

R. N. Dunnington, Benton Harbor.

BRANCH—Branch No. 9

W. A. Griffith, Coldwater.
F. H. Harris, Coldwater.

CALHOUN—Branch No. 1

W. S. Shipp, Battle Creek.
C. S. Gorsline, Battle Creek.
E. L. Parmeter, Albion.
W. L. Godfrey, Battle Creek.

CASS—Branch No. 36**CHEBOYGAN—Branch No. 58****CHIPPEWA-LUCE-MACKINAW—Branch No. 35****CLINTON—Branch No. 39**

W. A. Scott, St. Johns.
F. E. Luton, St. Johns.

DELTA—Branch No. 38

H. J. Defnet, Escanaba.
A. H. Miller, Gladstone.

DICKINSON-IRON—Branch No. 56**EATON—Branch No. 10**

C. L. McLaughlin, Vermontville.
Stanley Stealey, Charlotte.

GENESEE—Branch No. 24

J. C. Benson, Flint.
Carl Moll, Flint.
D. D. Knapp, Flint.
W. H. Winchester, Flint.

GOGEBIC—Branch No. 52

H. A. Tressel, Wakefield.
T. S. Crosby, Wakefield.

GRAND TRAVERSE-LEELANAU—Branch No. 18**GRATIOT-ISABELLA-CLARE—Branch No. 25**

C. F. Dubois, Alma.
E. F. Lamb, Alma.

HILLSDALE—Branch No. 3

W. H. Sawyer, Hillsdale.
W. H. Ditmars, Jonesville.

HOUGHTON—Branch No. 7

Alfred Labine, Houghton.
A. D. Aldrich, Houghton.
W. K. West, Trimountain.

HURON—Branch No. 47**INGHAM—Branch No. 40****IONIA-MONTCALM—Branch No. 16**

F. J. Fraleck, Greenville.
J. J. McCann, Ionia.

JACKSON—Branch No. 27

H. A. Brown, Jackson.
E. F. Lewis, Jackson.

KALAMAZOO—Branch No. 64

A. W. Crane, Kalamazoo.
W. E. Collins, Kalamazoo.
B. A. Shepard, Kalamazoo.
J. C. Maxwell, Paw Paw.
R. A. Morter, Kalamazoo.
W. O. Vaughan, Plainwell.

KENT—Branch No. 49

C. C. Slemons, Grand Rapids.
A. V. Wenger, Grand Rapids.
A. Williams, Grand Rapids.
J. D. Brook, Grand Rapids.
H. J. Pyle, Grand Rapids.
Wm. Wilson, Grand Rapids.

E. N. Nesbitt, Grand Rapids.
A. H. Edwards, Grand Rapids.

LAPEER—Branch No. 23

D. J. O'Brien, Lapeer.
N. D. McVicar, Imlay City.

LENAWEE—Branch No. 51**MACOMB—Branch No. 48****MANISTEE—Branch No. 19**

H. D. Robinson, Manistee.
A. A. McKay, Manistee.

MARQUETTE-ALGER—Branch No. 28**MASON—Branch No. 17****MECOSTA—Branch No. 8**

G. H. Yeo, Big Rapids.
J. B. Campbell, Big Rapids.

MENOMINEE—Branch No. 55**MIDLAND—Branch No. 43**

J. H. Sherk, Midland.
C. V. High, Midland.

MONROE—Branch No. 15**MUSKEGON—Branch No. 61**

F. B. Marshall, Muskegon.
S. G. Cohan, Muskegon.

NEWAYGO—Branch No. 50**OAKLAND—Branch No. 3**

Geo. P. Raynale, Birmingham.
P. D. Hilty, Birmingham.

O. M. C. O. R. O.—Branch No. 11**ONTONAGON—Branch No. 66**

E. J. Evans, Ontonagon.
F. W. Machugh, Ontonagon.
W. B. Hanna, Mass City.
J. S. Nitterauer, Ontonagon.

OSCEOLA-LAKE—Branch No. 30**OTTAWA—Branch No. 32**

R. H. Nichols, Holland.
W. Westrate, Holland.

PRESQUE ISLE—Branch No. 63**SAGINAW—Branch No. 14**

C. H. Sample, Saginaw.
W. J. O'Rielly, Saginaw.

SANILAC—Branch No. 20

W. J. McColl, Croswell.
W. T. Atkinson, Marlette.

SCHOOLCRAFT—Branch No. 57

W. K. Wright, Manistique.
J. W. O'Neil, Manistique.

SHIAWASSEE—Branch No. 33**ST. CLAIR—Branch No. 45****ST. JOSEPH—Branch No. 29****TRI—Branch No. 42**

John F. Gruber, Cadillac.
S. C. Moore, Cadillac.

TUSCOLA—Branch No. 29

O. G. Johnson, Fostoria.
J. T. Redwine, Cass City.

WASHTENAW—Branch No. 42

John A. Wessinger, Ann Arbor.
Warren E. Forsythe, Ann Arbor.
John A. Wessinger, Ann Arbor.
Udo J. Wile, Ann Arbor.
Harold Barss, Ann Arbor.

WAYNE—Branch No. 2

George Sewell, Detroit.
 Raymond L. Clark, Detroit.
 J. E. King, Detroit.
 George E. Frothingham, Detroit.
 Clark D. Brooks, Detroit.
 Harry M. Malejan, Detroit.
 Raymond C. Andries, Detroit.
 George M. Livingston, Detroit.
 George C. Chene, Detroit.
 Ray Connor, Detroit.
 Charles F. Kuhn, Detroit.
 Harold K. Shawan, Detroit.
 Wm. J. Cassidy, Detroit.
 E. Wilber Caster, Detroit.
 J. Walter Vaughan, Detroit.
 Walton K. Rexford, Detroit.
 James E. Davis, Detroit.
 Frank A. Kelly, Detroit.
 Guy L. Connor, Detroit.
 J. Albert Kimzey, Detroit.
 Archibald D. McAlpine, Detroit.
 Norman A. Allen, Detroit.
 B. H. Larsson, Detroit.
 George K. Sipe, Detroit.
 Henry A. Luce, Detroit.
 Ralph K. Johnson, Detroit.
 Albert E. Catherwood, Detroit.
 John E. Gleason, Detroit.
 H. Wellington Yates, Detroit.
 Wm. M. Donald, Detroit.
 Ledru O. Geib, Detroit.
 Gerald H. McMahon, Detroit.
 F. D. Royce, Detroit.
 John L. Chester, Detroit.
 Wyman D. Barrett, Detroit.
 J. Hamilton Charters, Detroit.
 Louis J. Morand, Detroit.
 George C. Burr, Detroit.
 Edward H. Sichler, Detroit.
 C. Hollister Judd, Detroit.
 Roger V. Walker, Detroit.
 Wm. Stapleton, Detroit.
 C. Fremont Vale, Detroit.
 Douglas L. Gordon, Detroit.
 Howard W. Peirce, Detroit.
 Don A. Cohoe, Detroit.
 Guy L. Kiefer, Detroit.
 Beverly D. Harison, Detroit.
 Richard M. McKean, Detroit.
 Henry L. Ulbrich, Detroit.
 Angus McLean, Detroit.
 Harry L. Clark, Detroit.

SECTION ON MEDICINE

Chairman—John L. Chester, M. D., Detroit.

Secretary—Frank J. Sladen, M. D., Detroit.

FIRST SESSION

September 12, 1923, 1:00 P. M.

1. Diagnostic and Therapeutic Considerations in Pulmonary Tuberculosis.
 Lawrason Brown, M. D., Saranac Lake, N. Y.
2. A City Program for the Control of Tuberculosis.
 A. M. Wehenkel, M. D., Detroit.
 Synopsis: The chief factors in a campaign against tuberculosis.
 The relationship with private physicians.
 The part of the sanatorium, the preventorium and the open air schools in a successful campaign against tuberculosis.
3. Sinus Disease and Lung Infections.
 Kennon Dunham, M. D., Cincinnati, Ohio.
 Synopsis: Difficulty of differentiating tuberculous from non-tuberculous lesions. Regard all in-

cipient lung lesions as a focal infection. Three hundred and eighty-nine tuberculous suspects analyzed. Twenty-eight per cent primary focus elsewhere. Infected sinus with no symptoms a frequent finding in both tuberculous and non-tuberculous cases. X-ray diagnosis of chest. Relief from clearing sinus infection.

Discussion of these three papers by:

Dr. Herbert M. Rich, Detroit.
 Dr. A. B. Wickham, Detroit.
 Dr. William J. Kay, Lapeer.
 Dr. B. A. Shepard, Oshtemo.
 Dr. W. H. Marshall, Flint.
 Dr. John T. Sample, Saginaw.
 Dr. Leo C. Donnelly, Detroit.
 Dr. C. C. Slemons, Grand Rapids.
 Dr. R. M. Olin, Lansing.

4. Auricular Fibrillation and Its Treatment.

Frank N. Wilson, M. D., Ann Arbor.

Synopsis: Auricular fibrillation occurs in mitral stenosis, toxic goitre, and chronic myocarditis. It occurs in other conditions occasionally, but most of the cases fall into these three groups. The most common irregularity in patients with cardiac failure. It may be treated with digitalis which does not abolish the irregularity but increases the efficiency of the heart by slowing the ventricular rate; with quinidin which abolishes the irregularity in about 50 per cent of the cases. Quinidin, however, frequently causes accidents which prohibits its indiscriminate use. In a few cases it proves of great benefit but the cases to which it is given must be selected with great care if disaster is to be avoided.

5. The Typing of Arterial Hypertension As a Basis for Treatment.

Frank J. Sladen, M. D., Detroit.

Synopsis: High blood pressure a frequent finding. Attitude of physician. Reaction of patient. Mental state. Other causes. Relationship to diet. Experimental work. Three types. Method of typing. Determination necessary in experimental work. Type determines treatment. Form of treatment according to type.

Discussion of these two papers led by:

Dr. M. A. Mortenson, Battle Creek.
 Dr. Walter J. Wilson, Detroit.
 Dr. Alpheus Jennings, Detroit.
 Dr. F. Janney Smith, Detroit.
 Dr. William Northrup, Grand Rapids.

6. The History and the Metabolism of Diabetes Mellitus.

Bruce C. Lockwood, M. D., Detroit.

Synopsis: Discovery of diabetes. Cycles through which dietetic treatment has passed. Recent metabolic researches regarding ketosis.

7. The Use of Insulin in the Treatment of Diabetes Mellitus.

Phil L. Marsh, M. D., Ann Arbor.

Synopsis: Indications for use of insulin. Importance of diet. Insulin in severe diabetes. Balance between dose and diet. Insulin in coma, infection and surgery. Causes, symptoms and treatment of overdose.

Discussion of these two papers led by:

Dr. Leonard F. C. Wendt, Detroit.
 Dr. Irvine McQuarrie, Detroit.
 Dr. Burton R. Corbus, Grand Rapids.
 Dr. Paul Roth, Battle Creek.

SECOND SESSION

September 13, 9 A. M.

Chairman's Address.

1. The Dangers and Duties of the Hour in Medical Practice. John L. Chester, M. D., Detroit.
 Synopsis: The present. A departure from old traditions and ethics. Unrest within. Public suspicious.
 The state of public health. War-time findings and experiences. New perspective in practice. Periodical health examination. Need for. How

to be made. Necessity of a general campaign therefor.

The family physician. His status in all medical matters. His relationship with family.

Periodical health examination or state medicine. Clear issue is present. The duty of the profession.

Physicians' remuneration. Personal matter between practitioner and patient. No concerted movement to fix fees.

Group practice. Personnel. Reason for. Modus operandi.

The future. Plea for return to time-honored ethics. Necessity for acquiring knowledge and rendering service.

2. Transient Paralysis. Their Diagnosis and Treatment.

C. G. Jennings, M. D., Detroit.

Synopsis: Transient aphasias and paralyzes of central origin form a neurological group of great interest to the medical practitioner—Transient aphasias most common—Monoplegias and sensory disturbances frequent—Pathology of transient paralysis has been subject of much interested discussion—Condition occurs as a complication in hypertension and arteriosclerosis—Causes of major apoplectic attacks, hemorrhage, thrombosis and embolism not adequate to account for paralytic symptoms of very short duration. Spasm of the cerebral vessels or localized oedema of the brain thought to be the pathological basis of some attacks—Partial occlusion by soft thrombus most reasonable explanation—Diagnosis—Prognosis—Treatment.

3. The Definition of Psychoneurosis and Fundamental Points in Treatment.

Thomas J. Heldt, M. D., Detroit.

Synopsis: Psychoneurosis a definite term. Criteria for use. Symptomatology and objective signs. Basis for therapy and purpose. Features of treatment.

Discussion of these two papers led by:

Dr. H. A. Reye, Detroit.
Dr. A. L. Jacoby, Detroit.
Dr. Carl D. Camp, Ann Arbor.
Dr. David Clark, Detroit.
Dr. Frank R. Starkey, Detroit.
Dr. Bertram A. Jones, Detroit.

4. Basal Metabolism from the Standpoint of the Clinical Laboratory, with Remarks Upon Treatment, Based Upon the Study of Five Hundred Cases.

Harry L. Clark, M. D., Detroit.

Synopsis: Basal metabolism determinations, properly made, are of value in:

1. The differential diagnosis of thyroid diseases and of other diseases affecting the metabolic rate.

2. In determining the severity of the disease.

3. In ascertaining the effect or therapeutic measures both medical and surgical.

The cases which have come under our observation will be grouped and a brief discussion of the therapeutic measures indicated by our findings will be given.

Discussion led by:

Dr. William R. Vis, Grand Rapids.
Dr. Frank W. Hartman, Detroit.
Dr. Paul Roth, Battle Creek.
Dr. George M. Kesl, Port Huron.
Dr. O. A. Brines, Detroit.

5. Bronchial Asthma.

A. D. Wickett, M. D., Ann Arbor.

Synopsis: The need of more thorough examination of asthmatics. The results of treatment.

Discussion led by:

Dr. Herbert M. Rich, Detroit.
Dr. Frank R. Menagh, Detroit.
Dr. James R. Brotherhood, Grand Rapids.
Dr. Douglas Donald, Detroit.
Dr. Newell S. Ferry, Houghton.
Dr. Robert B. Harkness, Houghton.

6. The Present Status of the Etiology of Chronic Arthritis With Remarks Upon Treatment.

L. M. Warfield, M. D., Ann Arbor.

Synopsis: Due to the many changes which occur in and about the joints it has been difficult

to classify the cases of chronic arthritis. A working classification is given based upon physical signs and X-ray findings.

The part that focal infection plays and the evident exceptions.

Some illustrative cases with lantern slide demonstration.

Discussion of the treatment of these protracted cases by medicinal and mechanical means.

7. Nonspecific Protein Therapy in Arthritis.

William S. Petersen, M. D., Chicago.

Synopsis: Nonspecific agents and the reaction they cause. General reaction. Focal reaction. Experience in arthritis. Form of foreign protein to be used. Relation to carditis. Comparison with ordinary treatment. Results.

Discussion of these two papers led by:

Dr. C. W. Peabody, Detroit.
Dr. Stewart Wilson, Detroit.
Dr. Paul G. Wooley, Detroit.
Dr. Edward A. Spalding, Detroit.
Dr. Richard M. McKean, Detroit.
Dr. E. W. Haass, Detroit.

THIRD SESSION

September 13, 1 P. M.

Election of Chairman.

1. The Present Status of the Treatment of Disease With Organ Extracts.

Ernest E. Irons, M. D., Chicago.

Discussion led by:

Dr. Robert C. Moehlig, Detroit.
Dr. Hugo Freund, Detroit.
Dr. S. Merrill Wells, Grand Rapids.
Dr. Julian L. Kendall, Detroit.
Dr. Joseph B. Whinery, Grand Rapids.
Dr. Plinn F. Morse, Detroit.

2. The Diagnostic Value of the Gastric Secretion.

Martin E. Rehfuess, M. D., Philadelphia.

3. Gastric Obstruction.

C. Emerson Vreeland, M. D., Detroit.

Synopsis: Types of gastric obstruction. Causes and differential diagnosis. Indications for surgical interference. Opportunity for medical treatment.

4. A Study of the Diagnostic Criteria of Duodenal Ulcer.

John G. Mateer, M. D., Detroit.

Synopsis: From the standpoint of diagnosis any large group of peptic ulcer cases may be subdivided into four groups. This study includes a rather large group of cases of simple duodenal ulcer without organic pyloric obstruction. Characteristic ulcer history ranks first as a diagnostic measure in peptic ulcer. Carefully conducted X-ray studies easily rank second in the diagnosis. Such studies are not only of value in confirming the clinical diagnosis of ulcer, but also in yielding information as to the exact location and character of the ulcer, thereby making possible the selection of the best type of treatment for the individual case. In X-ray studies it is extremely important to distinguish between intrinsic and extrinsic spasm of duodenal bulb. Indirect X-ray evidence is chiefly of confirmatory value. Epigastric tenderness was found in 53 per cent of the cases. It has limited value in differential diagnosis. Occult blood in stool was found in 25 per cent of cases. With fractional gastric analysis 67 per cent of cases showed a gastric hyperacidity, 29 per cent a normal acidity, and four per cent a sub-acidity. In individual cases gastric analysis findings are of limited diagnostic importance.

5. Clinical Alkalosis in Gastric Disease.

J. B. Youmans, M. D.

I. W. Greene, M. D., Ann Arbor.

Synopsis: Occurrence and clinical significance of alkalosis. Not fully appreciated. Brief discussion of conditions under which alkalosis occurs. The occurrence of alkalosis in gastric disease with and without tetany. Clinical significance of pretetanic alkalosis. Abstracts of illustrative cases. Significance of findings.

6. Certain Factors Which Should Be Considered When Prognosing the Cure of Peptic Ulcer.
Frank R. Smithies, M. D., Chicago.

Discussion of these five papers led by:

Dr. Frederick G. Buesser, Detroit.
Dr. A. S. DeWitt, Detroit.
Dr. John T. Watkins, Detroit.
Dr. W. H. Enders, Jackson.
Dr. A. W. Crane, Kalamazoo.
Dr. Collins H. Johnston, Grand Rapids.
Dr. Mark Marshall, Ann Arbor.
Dr. Charles D. Aaron, Detroit.
Dr. E. L. Eggleston, Battle Creek.

SURGICAL SECTION

Chairman—F. B. Walker, Detroit.
Secretary—A. C. Blakeley, Flint.

FIRST SESSION

September 12, 1:15 P. M.

- Chairman's Address.
F. B. Walker, Detroit.
- Traumatic Injuries of the Head.
H. E. Randall, Flint.
 - The heavy mortality in this class of injury.
 - Indications are definite when and when not to operate.
 - Never operate in shock.
 - Typical symptoms of brain injury.
 - Depressed and G. SW. wounds.
 - Methods of examination—X-ray, Eye, Pulse Rate and Pressure, Spinal Pressure.
 - Decompression operations.
 - Comment on symptoms following head injuries—Headache, unconsciousness, irritability, pulse rate and pressure, etc.
- Diseases of the Spinal Cord.
Max Ballin, Detroit.
- The Value of Enterostomy in Surgery.
C. D. Brooks, Detroit.

Enterostomy holds the same place in the reduction of mortality and morbidity in proper cases as does the two-stage operation for prostatic hypertrophy.

Many cases of acute peritonitis which have extended for several days, have had their lives saved by enterostomy at the time of the operation.

This procedure is also of value in operations on Neoplasms, of the large colon, either performed as a preliminary operation or at the time of the resection of the neoplasm. It is also of value in treatment of inoperable carcinoma of the rectum, with radium, etc.

- A Study of the Chemical Solvents Used in Dissolving Foreign Bodies in the Urinary Bladder, Such as Paraffin, Beeswax, Gum and Urethral Pencils.

Harold L. Morris, Clarence I. Owen, Detroit.

The impossibility of grasping foreign bodies of this character with the rongeur, lithrotrite, or other bladder instruments prompted this study which consisted of establishing the known solvents in vitro, then, by means of animals to satisfactorily determine the solvents that could be used in vivo, the observations being reported in detail.

SECOND SESSION

September 13, 9:00 A. M.

- Impressions of European Proctology.
L. J. Hirschman, Detroit.
- Management of Clinical Types of Goitre With Special Reference to the Adenomatous Type.
H. J. Vandenburg, Grand Rapids.

The adenomatous type of goitre is treacherous because of its tendency to attack the myocardium. There is no guarantee that a given case will not do so at any time. Therefore, it would be good

practice to advise removal of all adenomatous goiters.

Demonstration of cases.

- Resume and General Consideration of Osteomyelitis of Hemotogenous Origin.

Leon M. Bogart, Flint.

(a) Osteomyelitis of Hemotogenous Origin is more frequently met with now, or more easily diagnosed due to a greater precision of methods of diagnosis.

(b) Acute Osteomyelitis is essentially a disease of the young and adolescent.

(c) The disease is usually metastatic from a distant focus of infection and is carried by the blood stream.

(d) The infection may spread by continuity as well.

(e) The important symptoms, being excruciating pain in the bone at the seat of infection, high temperature and oedema. X-ray findings may be negative in acute cases though most important in sub-acute and chronic cases.

(f) Early recognition is essential to successfully cope with the disease.

(g) Treatment in acute cases should be early evacuation and drainage and in chronic and sub-acute cases wait for the sequestrum to form and then remove the same with proper considerations for future bone regeneration.

(h) Distant foci of infection must be dealt with in attempting a permanent cure of this disease.

THIRD SESSION

1:15 P. M.

- Election of Chairman.
- To be announced. (By invitation.)
Willard Bartlett, St. Louis, Mo.
- Some X-Ray Studies in Bone Pathology.
P. M. Hickey, Ann Arbor.
 - Illustrative cases showing the effect of muscle pull in fractures.
 - Changes in the architecture of bone due to stress.
 - The influence of function on the development of the skeleton. (Illustrated by lantern slides.)
- Indications for and Limitations of the Various Bone Splints in the Treatment of Mal- and Un-united Fractures.
W. J. Cassidy, Detroit.
- Traumatic Neurosis in Its Relation to the Surgeon.
Fred P. Currier, M. D., Grand Rapids.
R. H. Denham, M. D., Grand Rapids.

Outline:

- The disease defined and reasons for discussing this subject before the surgical section.
- Discussion from economic standpoint including Michigan Compensation Laws.
- Brief review of important literature on the subject up to date.
- Summary of our experience with this disease with special reference to etiology.
- Conclusion.

GYNECOLOGY AND OBSTETRICS

Chairman—Ward F. Seeley, Detroit.
Secretary—R. Cron, Ann Arbor.

September 12, 1:15 P. M.

- "Endocervicitis."
A. E. Catherwood, M. D., Detroit.
Pathology gross and microscopic, symptoms and treatment, operative and non-operative with lantern slides.
- "Diseases of the Cervix Uteri and Their Treatment."
Howard H. Cummings, M. D., Ann Arbor.
 - The consideration of cervical lacerations with the resulting ectropion and erosion. The simple method of preventing these conditions which may be applied in office practice.
 - Chronic infections of the cervical glands in nulliparous women, or in women who have borne children. The method of curing a persistent and irritating leucorrhoeal discharge. Value of

the Sturmfors's operation in preference to amputation of the cervix.

(c) Acute and chronic gonorrheal endocervicitis and its treatment.

3. "Anterior Poliomyelitis Complicating Pregnancy With Report of Two Cases."

Norman F. Miller, M. D., Ann Arbor.

This condition complicating pregnancy is by no means common. An abundance of literature exists on anterior poliomyelitis but curiously enough very little is to be found regarding the condition as a complication of pregnancy and labor.

Two cases are reported. In one pregnancy was interrupted at the sixth month. In the second case delivery of a normally developed child took place at term.

The prognosis for a normal delivery; for a normal child; and for ultimate recovery are yet to be determined. The number of cases observed and reported are too few to permit worth-while conclusions.

4. "Goitre in Pregnancy."

C. E. Boys, M. D., Kalamazoo.

The effects of goitre on pregnancy; the effects of pregnancy on goitre; the medical treatment and the operability of goitres during pregnancy. Report of personal cases.

SECOND SESSION

September 13, 9:00 A. M.

1. "Pathological Uterine Activity as a Cause of Dystocia."

Theodore W. Adams, M. D., Ann Arbor.

A paper dealing with the various types of dystocia arising from abnormal uterine contractions. Hyperuterine activity; its causes, results, and the treatment of its various manifestations. The etiology of primary and secondary inertia with a general consideration of the differential diagnosis and treatment of these two conditions.

2. "Dystocia Due to Abnormalities of the Soft Parts of the Generative Tract." Illustrated with Lantern Slides.

Walter Manton, M. D., Detroit.

Conditions found in soft parts resulting in difficult labor may be classified in three groups.

- (a) Congenital anomalies.
- (b) New growths, benign and malignant.
- (c) Acquiring deformities, due to surgical operation or specific trauma, or to infection. Treatment is instituted according to whether these conditions exist in the upper part of the birth canal or in the lower part.

3. "The Practical Aspects of Contracted Pelvis."

E. D. Plass, M. D., Detroit.

The ordinary methods of pelvic measurement suffice merely to indicate the small group of women in whom the possibility of pelvic dystocia should be considered; while the actual determination of the degree of disproportion must be determined by other means. The ideal treatment for contracted pelvis is abdominal Cesarean Section in cases with serious disproportion, with a prospect for a spontaneous outcome in other cases. A well developed obstetrical judgment is necessary if Cesarean Section is not to be abused, and if, on the other hand, difficult vaginal delivery is not to be required.

Lantern slide demonstration.

4. "Dystocia From Fetal Causes."

George Kamperman, M. D., Detroit.

Fetal dystocia will be considered with the following classifications in mind:

- I. Dystocia due to abnormally large fetus.
- II. Dystocia due to fetal malformation.
- III. Dystocia due to difficult presentations and positions.
 - (a) Posterior positions.
 - (b) Face and brow presentation.
 - (c) Transverse presentation.
 - (d) Breech presentation.

Discussion on these papers to be opened by Dr. A. W. Fralick, Maple City, Mich., and Dr. Milton A. Darling, Detroit, Mich.

THIRD SESSION

September 13, 1:15 P. M.

Election of Chairman.

Election of Secretary for two years.

1. "Tube Inflation in Its Relation to Sterility Problem."

Harold Henderson, M. D.

T. G. Amos, M. D., Detroit.

- (a) Development of the procedure.
- (b) Scope of usefulness, dangers and limitations of its usefulness. Types of cases upon which it may be used with safety.
- (c) Technique. Description of the syringe method.
- (d) Interpretation of findings. The value of the stethoscope in this work.
- (e) Case reports.

2. "Cancer of the Breast."

R. R. Smith, M. D., Grand Rapids.

- (a) Discussion of statistics as to cures by various methods.
- (b) Use of radium and x-ray without operation.
- (c) The use of x-ray following operation.
- (d) Operability and its determination.
- (e) Program for the handling of all tumors of the breast.
- (f) The operation.
- (g) What incision is best?
- (h) What should be removed and how?
- (i) What about after care and the use of the arm?
- (j) How should the patient be followed up afterwards?

3. "Diagnostic Value of X-Ray in Obstetrics."

A. M. Campbell, M. D., Grand Rapids.

Roetgenography as a diagnostic aid in obstetrics has been attempted for over a quarter of a century. Early progress was limited because of inadequate apparatus and imperfect technique. Important recent advances have been made which should encourage more general use of this agent. Personal case reports demonstrating its value. Lantern slide demonstration.

4. "Deep X-Ray Therapy in Malignancies of Cervix and Uterus."

Clyde K. Hasley, M. D., Ann Arbor.

Preliminary report.

SECTION ON OPHTHALMOLOGY AND OTO-LARYNGOLOGY

Chairman—Howard W. Pierce, M. D. Detroit.

Secretary—Benton N. Colver, M. D. Battle Creek.

FIRST SESSION

September 11, 9 A. M. to 12 M.

Operating Clinics:

Blodgett Hospital.

Butterworth Hospital.

St. Mary's Hospital.

The Grand Rapids men will provide interesting Eye, Ear, Nose and Throat clinics for this session. The list of operations will be posted early Tuesday morning at the Registration Bureau and at the offices of the three hospitals.

SECOND SESSION

September 11, 2 P. M. to 5 P. M.

Post-Graduate Lectures.

2:00 to 2:40—Clifton F. McClintic, M.A., M.D. Director of the Department of Anatomy, Detroit College of Medicine and Surgery and Associate in Neurology, Providence Hospital, Detroit.

"The Practical Significance of the Function and

Anatomy of the Base of the Cranium and Cranial Nerves in the Practice of Ophthalmology, Otology and Rhinology."

A knowledge of the physiology and anatomy of the structures at the cranial base including the cranial nerves and their connections enables the Ophthalmologist, Otologist and Rhinologist to (1) anticipate secondary infections and determine what avenues they may follow. (2) a knowledge of the function of the parts involved along the routes of infection enables one to localize the seat of infection from the presenting signs and symptoms and forms (3) a basis upon which a rational and scientific plan of surgical or therapeutic procedure can be determined with a fair basis upon which to make a prognosis.

The paper will deal with the avenues mentioned along which secondary infections travel, the function of the parts involved will be discussed and the symptoms resulting therefrom will be accounted for. The structures encountered in operative procedures will be discussed together with the vestibular and cochlear apparatus with the reasons for the various tests used in diagnosis. The parts discussed will be illustrated by wet specimens dissected to show the relationships.

2:45-3:25—"Clinical Pathology of the Tonsil."

James E. Davis, M. D., Detroit.

3:30-4:10—

4:20-5:00—

(Note)—The other two lecturers have not been definitely arranged for at this date (July 13). It is expected that they will be two men from out of the state, and that the subjects will be of general interest.

THIRD SESSION

September 12, 1:15 P. M. to 4:00 P. M.

Round Table Discussion.

Every Registrant in the Section is urged to present at this discussion any interesting observation or personal conclusion of practical importance to the rest of the men. It is believed that such an experience meeting will develop intense interest and be of great value to all.

FOURTH SESSION

September 13, 9 A. M. to 11:30 A. M.

Dry Clinic.

Under the direction of Dr. Roy T. Urquhart from twelve to fifteen selected cases will be presented by various men, giving the clinical history, the examination findings, the medical or surgical care, and indicating complications and end results, with the presentation of the patient. Similar clinics have been remarkably successful in other states.

FIFTH SESSION

September 13, 1:15 P. M. to 4:00 P. M.

Election of Chairman.

Scientific Session.

1. "Plastic Surgery of the Eye." (Lantern slide demonstrations).

Walter R. Parker, M. D., Detroit.

2. "Is There Any Reason to Assume That Insolation May Be an Etiological or an Assisting Etiological Factor in Producing a Form of Nystagmus Which Somewhat Resembles the Nystagmus in Multiple Sclerosis?"

Emil Amberg, M. D., Detroit.

3. "Changes in the Lungs and Bronchi Due to Affections of the Upper Respiratory Tract."

J. S. Pritchard, M. D., Battle Creek.

Discussant: Preston M. Hickey, Ann Arbor.

4. "A Method of Holding the Septal Membranes in Apposition After a Submucous Resection Without the Use of Packing. Description and Demonstration of the Instruments for

Performing It and the Method of Use, Illustrated by Lantern Slides."

H. Lee Simpson, M. D., Detroit.

Important points favoring the use of such method: marked lessening post operative bleeding, reduction of post operative discomfort to practically none. A plea for doing away with post operative packing after all intra-nasal operations in nearly all cases.

5. (a) "Relation of Diseases of the Eye to Nasal Disturbances." (Lantern Slide Demonstrations.)

Edward J. Bernstein, M. D., Detroit.

That many eye troubles owe their origin to extra ocular sources long known.

Many cases asthenopia, even properly refracted, only yield when pressure on middle turbinates is corrected.

Sluder's lower half headache, due to irritation of the sphenopalatine ganglion.

Empyema of sinuses responsible for most external eye diseases and many cases of keratitis, iritis, choroiditis, retinitis—to thrombosis of lateral sinuses.

- (b) "Intra-Ocular and Retro-Bulbar Neuritis, Due to Hyper-Plastic Ethmo-Sphenoiditis. Report of Cases. Lantern Slide Demonstration of Author's Original Investigation of the Sinuses in Their Relation to the Optic Nerve."

J. M. Southerland, M. D., Detroit.

PEDIATRICS

Chairman—T. B. Cooley, Detroit.

Secretary—Lafon Jones, Flint.

Wednesday, September 12, P. M.

1. Ventricular Pneumography in Infants and Children. Dr. M. Boyd Kay, Detroit.
2. Acrodynia. Dr. Stanley D. Giffen, Toledo, Ohio.
3. Studies in Secondary Anemia. Dr. J. C. Montgomery, Detroit.
4. Menstruation and Its Disorders in Early Adolescence.

Dr. G. M. Brown, Bay City.

Thursday, September 13, A. M.

1. Title to be announced. Dr. W. C. C. Cole, Detroit.
2. Title to be announced. Dr. D. Murray Cowie, Ann Arbor.
3. Treatment of Acute Vomiting in Infants and Children. Dr. David J. Levy, Detroit.
4. Vitamins and the Baby. Dr. Joseph Brenneman, Chicago.

Thursday, September 13, P. M.

Election of Chairman and Secretary.

1. Title to be announced. Dr. W. S. O'Donnell, Ann Arbor.
2. Title to be announced. Dr. Julius Hess, Chicago.
3. Title to be announced. Dr. John Paul Parsons, Ann Arbor.

SECTION ON PUBLIC HEALTH

Chairman—Guy L. Keifer, Detroit.

Secretary—W. J. Deacon, Lansing.

September 13

9:00 A. M.—Chairman's Address.

Dr. Guy L. Keifer, Detroit.

Endemic Goitre as a Public Health Problem.

Dr. C. C. Slemons, H. O., Grand Rapids.

Discussion by Dr. C. A. Neafie, H. O., Pontiac.
Dr. C. P. Drury, H. O., Marquette.

W. C. Hirn, Assistant Sanitary Engineer,
Michigan Department of Health.

The Local Control of Epidemics.

Dr. Thos. B. Marsden, Epidemiologist, Mich-
igan Department of Health.

Discussion by Dr. Burt U. Estabrook, Deputy
Commissioner Detroit Department of Health.

Dr. Wm. De Klein, H. O., Saginaw.

Dr. Robert Stevenson, H. O., Flint.

11:00 A. M.—Business Meeting.

2:00 P. M.—Recent Advances in Public Health Lab-
oratory Methods.

Dr. H. W. Emerson, Hygienic Laboratory,
University of Michigan.

Discussion by Dr. R. W. Pryor, Director of
Laboratories, Detroit Department of Health.

The Field Training of County Nurses.

Miss Lois Barrington, Supervisor of Wayne
County Nurses.

Discussion by Dr. F. R. Town, H. O., Jackson.

The Relation of Street Dust to Public Health.

Prof. W. C. Hoad, University of Michigan.

Discussion by W. A. Sperry, Director of Pub-
lic Health, Grand Rapids.

Dr. A. Wehenkle, Director Tuberculosis Divi-
sion, Detroit Department of Health.

COUNTY SECRETARIES' LUNCHEON

Every County Secretary is invited and urged to
attend the luncheon at the Pantlind Hotel at 12:15
M., as the guests of the Council.

This is a gettogether meeting and every County
Secretary is expected to be present. Please send
in your acceptance and intention to be present to the
State Secretary. The Council looks forward to your
attendance.

ENTERTAINMENT

The entertainment features of this meeting will
be under the supervision of Dr. A. M. Campbell.
The formal features will be:

Sept. 11, 9:00 P. M.—Social Session and Smoker at
the Peninsular Club.

Sept. 12, 8:30 P. M.—Kent Country Club. Presi-
dent's Reception, Artists' Entertainment and Dance.

LADIES' ENTERTAINMENT

Entertainment for the visiting ladies will be pro-
vided for on Wednesday afternoon and on Thursday.
Detailed announcement will be made at the time of
registration.

What's in a Name?—At the Detroit Examina-
tions (June 11-13, 1923), held by the Michigan State
Board of Registration in Medicine, the applicants
represented regular medical students and graduates,
drugless practitioners (chiropractors) and chiropo-
dists. During the examination in bacteriology, one
of the chiropractors asked the examiner if he had
not been given through error the questions meant for
the chiropodists. The examiner answered "No."
"What makes you think so?" He replied, "Look at
the first question in this paper." The question was
"Distinguish between ptomains leucomains."

Book Reviews

RECOVERY RECORD FOR USE IN TUBERCULOSIS.
Webb and Ryder. Price \$2.00. Paul B. Hoeber,
Publisher, New York City.

This is a most splendid and sensible record. Send
for one and then see that each one of your tubercu-
lar patients obtains one. It will aid you and them
in bringing about a recovery.

INTERNATIONAL CLINICS. Volume 2. Series 23.
J. B. Lippincott Co., Philadelphia.

Up to it's usual standard. But of especial inter-
est because of a most complete discussion of In-
sulin. The subject of Diabetes and Insulin is ex-
ceptionally well covered and is worth the price of
the volume alone.

THE MEDICAL CLINICS OF NORTH AMERICA.
May, 1923. W. B. Saunders Co., Philadelphia.

The May number is the San Francisco number.

The standard is maintained. The articles are of
sufficient diversified interest to attract and instruct
the physician and surgeon alike.

THE INFANT AND YOUNG CHILD. Its care and
feeding from birth until school age. A manual for
mothers. By John Lovett Morse, M. D., Edwin T.
Medical School and Children's Hospital, Boston.
12mo of 271 pages, illustrated. Philadelphia and Lon-
don: W. B. Saunders Company, 1923. Cloth, \$1.75 net.
Wyman, M.D., and Louis Webb Hill, M.D., of Harvard

A splendid text for mother because it enables
her to obtain the knowledge that it is so requisite
for her to have for the better care of her infant
and child.

1922 COLLECTED PAPERS OF THE MAYO CLINIC.
Rochester, Minn., Octavo of 1394 pages, 488 illus-
trations. Philadelphia and London: W. B. Saunders
Company, 1923. Cloth, \$13.00 net.

These collected papers impart authoritative dis-
cussion, comment and opinion upon outstanding
medical and surgical problems. Conditions which
confront every doctor and upon which he is seek-
ing further information. Hence the value of this
collection. It is up to its established standard in
value, instruction and interest. It is a distinct
contribution to our literature. It should be read
and studied by every conscientious physician.

BUTTERWORTH HOSPITAL STAFF

The following appointments were made by the
Board of Trustees of Butterworth Hospital, Grand
Rapids, June 4, 1923: Doctors R. J. Hutchinson,
Chief of Staff; G. L. McBride, Vice-Chief of Staff;
R. F. Webb, Chief of Surgery; A. B. Smith, Vice-
Chief of Surgery; B. R. Corbus, Chief of Medicine;
A. J. Baker, Vice-Chief of Medicine; J. R. Rogers,
Chief of Eye, Ear, Nose and Throat; H. S. Collisi,
Chief of Obstetrics; F. J. Larned, Chief of Pediatrics;
and F. C. Warnshuis, Supervisor of Out-Patient
Department. In addition to the above, 50 other
physicians were appointed to the various depart-
ments. Among these 50 are Doctors W. J. DuBois,
R. H. Spencer, A. V. Wenger, J. D. Brook and J. S.
Brotherhood. Doctors W. E. Blodgett of Detroit,
Henry Hulst, George F. Inch of Kalamazoo, C. H.
Johnston of Grand Rapids, Perry Schurtz, of Grand
Rapids, and D. Emmet Welsh of Grand Rapids were
appointed to the Consulting Staff. Dr. Eugene Boise
of Grand Rapids and Dr. L. A. Roller of Grand
Rapids were appointed Honorary Staff Members.

The Journal

OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

J. B. Jackson, Chairman.....Kalamazoo
R. C. Stone.....Battle Creek
J. McLurg.....Bay City
R. S. Buckland.....Baraga

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The Society does not hold itself responsible for opinions expressed in original papers, discussions, communications, or advertisements.

Subscription Price—\$5 per year, in advance

AUGUST, 1923

**Report Malpractice Threats
Immediately to Doctor F. B.
Tibbals, 1212 Kresge Bldg.,
Detroit, Mich.**

Editorials

OUR ANNUAL MEETING

This issue contains the program and announcements for the annual meeting that is to be held in Grand Rapids on September 11, 12 and 13th. While some of the minor details of the program are not imparted in this issue, that which is printed will characterize our annual session. We are of the opinion that it is going to be an attractive and profitable meeting. We trust that a goodly number of our members will plan to attend. We urge that you plan now to attend this meeting and participate in its deliberations.

Every county society is entitled to one delegate for every fifty or major fraction of fifty members. The house of delegates is the legislative body of our society. Every county society should be represented in our house of delegates. County societies are urged to select as delegates men who will not only attend, but who will represent them by participating in the discussions and activities of that representative forum of our society. To be a delegate is not an idle honor. It carries definite responsibilities

and as delegates meet up to those responsibilities, so will our society meet up with its responsibilities to its members and to the public. Delegates are urged to be present at the first session of the house and to assume the duties that have been reposed in them.

The profession of Grand Rapids, as members of the Kent County Medical Society, have been actively at work, through designated committees, in preparing for your coming and for your comfort and entertainment. You will find them to be most hospitable entertainers and solicitous hosts. In addition to the announced entertainment features, three golf courses are open to those who desire to play golf. Especial effort will be made to provide entertainment for the visiting ladies.

The scientific features of the program reveal that section officers have planned a most interesting series of scientific discussions that are most timely. No member can afford to miss hearing these papers and discussions. Ample provision has been made for comfortable meeting places for all sections.

It is not necessary to dwell further upon what this annual meeting will provide, or, the benefits that will accrue to each member who attends. Grand Rapids physicians bid you come and welcome.

SAN FRANCISCO A. M. A. MEETING

Inasmuch as our delegates will submit a complete report next month at our annual meeting we do not purpose to make extended comment in this issue upon the annual meeting of the American Medical Association that was held in San Francisco the week of June 25th.

It was a splendid meeting, held in a city that is an ideal convention city on account of its climate and civic auditorium, which was able to house all the meetings under one roof. Though distant from the country's center of population, some 5,000 fellows registered. Michigan was represented at all the sessions of the house of delegates by Doctors Hornbogen, Brook, Frothingham and Taylor. A goodly number of Michigan doctors were present.

As to official action taken, our delegates will discuss this feature of the deliberations. Dr. Ray Lyman Wilbur of Leland Stanford University is president for the current year. Dr. Pusey of Chicago was chosen as president-elect. Dr. Olin West was elected secretary to succeed Dr. A. R. Craig, deceased. Dr. Wendal Philips of New York, is chairman of the board of trustees. Your Secretary-Editor was re-elected as speaker of the house of delegates. Chicago was selected as the place for our 1924 meeting.

WHAT THE A. M. A. IS DOING

The query is frequently made as to what the American Medical Association is doing and why a doctor should support this national organization. To answer this query in part, we are publishing some of the reports that were rendered at the San Francisco meeting this year. They impart very clearly the work that is being accomplished. We ask that our members read, with careful thought, every one of these reports. If you will do so you will receive a new insight as to what a wonderful and important work our national association is performing. Likewise, you will glean why you personally should subscribe support by becoming a Fellow of the A. M. A.

THE AMERICAN MEDICAL ASSOCIATION

Several interesting facts were presented in Secretary West's annual report. They are so germane to our State Society that we are quoting them for the information of our members and for their reflection.

The American Medical Association on May 1st had a membership of 88,519, who were affiliated through 2,049 component societies. Of that number 53,444 were Fellows of the association.

Here we desire to again explain the differentiation between fellows and members. In our plan of organization a physician joining a County Society automatically becomes a MEMBER of his State Society and a MEMBER of the American Medical Association. He pays NO DUES to the American Medical Association.

To become a FELLOW he must make application to the national body, must subscribe to the Journal of the A. M. A. and MUST PAY fellowship dues. These annual dues, which INCLUDE subscription to the Journal, are \$6.00 per year. Many of our members think they are Fellows, when, as a matter of fact, they are not, because they have not made application and have not paid the annual dues. Only Fellows are eligible to participate in the annual meeting of our national association.

Our State Society has 3,147 members, of which number 1,693 are Fellows of the American Medical Association. This is not as it should be. Michigan owes greater numerical support to our national organization. Not less than 2,750 of our members should be Fellows of the A. M. A. Why?

Because: They should support our national organization in the work it is doing for them, and by reason of which they profit, in medical legislation, council on pharmacy and chemistry,

medical education, hospital interne standardization, public health education, state licensure, research, cumulative index, national legislation, propaganda department, and The Journal of the American Medical Association, which is the greatest medical publication in the world. By reason of these and other activities that are being engaged in, you, doctor, profit and benefit and it is but fair that you should support those who are thus working for the enhancement of your welfare. We urge that if you are not a Fellow, that you today make application. Do it now.

We quote the following from Secretary West's report:

Medical organization exists for the purposes of (1) creating for its members opportunities for their scientific improvement, and (2) promoting the general welfare of the medical profession. The beneficent service of the profession can be rendered to best advantage only as its members are kept abreast of advances in medical science; the truths and proved methods of scientific medicine can be applied by its practitioners to the best advantage only when their economic status is such that they will be able to devote themselves as wholly as may be to their professional duties.

The achievements and successes of medicine and medical organization have been based on the fact that scientific advancement and helpful service to humanity have been the great fundamental considerations always held in the view of worthy physicians. It is on this basis, too, that the destiny of medicine and medical organization will be worthily fulfilled. It is nevertheless true that the organization which takes no thought for the material interests of its members fails in a most important duty to them and to the public they serve. In striving for economic improvement, we must never lose sight of the fact that the interests of the patient and of the public are paramount.

That the American Medical Association has wrought powerfully for the promotion of medical science and for the enrichment of the scientific knowledge of its members, none will deny. There are those who affirm that it has not labored efficiently for the improvement of the economic status of the medical profession. The fact is that a great deal of thought and effort have been expended by the general officers and the entire administrative personnel of the Association for making it serve to the greatest possible extent the promotion of the general professional welfare.

Within the last year or so innovations have been made, some of which are succeeding splendidly while some are not yet operating as intended because of conditions which, in time, will be removed. The Bureau of Legal and Legislative Medicine, as will be seen from the report submitted to this house, has been busy with many important matters and has achieved some notable successes, even though the bureau is only one year old.

The publication of Hygeia has been undertaken with the purpose of giving authentic information to the public for its benefit and to bring about an understanding of the aims, methods and purposes of the medical profession that will result in securing increased respect and esteem for it from the general public.

The creation of a field secretaryship was an effort to increase organizational efficiency. The work of this department was temporarily suspended because

conditions arose that were beyond control and made suspension necessary. It is proposed to resume this work at the earliest possible time.

With a view of establishing closer contact between component and constituent societies and the Association, its president, members of the Board of Trustees, the Secretary, the Field Secretary and several of the department heads have attended meetings of state, district and county medical societies and of councils of state associations during the past year. At these meetings, when opportunity offered, the work of the Association was presented and suggestions were sought as to how it might be made more helpful to medical societies and their members. On specific requests, representatives of the Association have appeared before medical societies whenever possible to discuss organizational problems and methods and to secure information that might be used to good advantage for increasing and extending the service of the parent organization to its component and constituent units. It is proposed to make further development along these lines and to provide speakers to address themselves to subjects of general professional interest, but more particularly to those bearing on medical organization and medical economics. Of course, it cannot be undertaken to provide contributions to scientific programs at society meetings.

Some constituent associations, notably those of Wisconsin, Pennsylvania and North Carolina have, in co-operation with universities, initiated postgraduate courses of study for members of county medical societies. Some sectional societies, notably the Pacific Northwest Medical Association and the Tri-State District Medical Society, all of whose members are required to be members of this Association, have developed splendid programs with diagnostic clinics as an outstanding feature. It may be feasible, at some time in the not distant future, for the American Medical Association to undertake activities of this nature. The matter is now being considered in the hope that a plan can be worked out whereby teachers and demonstrators for postgraduate lectures and diagnostic clinics can be provided for co-operating county or district societies. It is respectfully recommended that this house authorize the proper officers of the Association to organize such a plan and put it into effect.

The American Medical Association, with its nearly 90,000 members, is made up of more than 50 separate and largely independent organizations, each within its own peculiar problems and its own determining influences. In such a body it is oftentimes difficult, if not impossible, to determine where the weight of opinion lies with respect to any debatable question of procedure. It sometimes happens that when those upon whom administrative responsibility has been placed act to discharge what they conceive to be their duty in given premises, they receive as much of condemnation as of commendation. One large group insists that an attitude of most aggressive opposition should be assumed toward all or toward certain cults and their programs, legislative and otherwise. Another group, just as large and altogether as representative, takes exactly the opposite position. One state association may demand what another definitely objects to.

Our scheme of medical organization is, theoretically, extremely democratic. In its practical application it is evidently the desire of the members and of the officers of this Association that it shall operate along democratic lines to the fullest extent compatible with effective methods and with the possibilities for real accomplishment. It would seem, therefore, that the constituent state association should assume initiative in most organizational af-

fairs and in most movements of interest to the medical profession. There appears to be, however, a very decided difference of opinion as to where the initiative of the American Medical Association should begin and where the responsibility of the constituent state association leaves off. There are those things which the state association must do for itself, which the American Medical Association cannot do for it and should not do if it could. There are those things which the state association can do for itself or which the American Medical Association can do for it. In such matters it would seem wise for the state association to take the initiative and for the parent body to act only on the request of the constituent organization. There are still other things that the American Medical Association can do for its constituent and component societies and their members which they cannot do as independent organizations. These the Association should do on its own initiative and to the limit of its facilities. The publication of seven scientific journals and a magazine for the lay public, all of which have won recognition as meritorious periodicals, is evidence that the Association has not been unmindful of its duties and responsibilities. The headquarters organization is a veritable service bureau, in which all departments co-operate in replying to thousands of inquiries of every conceivable kind each year. Numerous other examples of service rendered by the Association in an effort to discharge the responsibilities which devolve directly on it might easily be cited. That so much has been done is an earnest that more will be undertaken, when, as a result of constructive criticism, supplemented with constructive suggestions, methods can be devised and means provided. It is for this house of delegates, composed of the chosen representatives of the nearly 90,000 physicians who make up its membership, to determine and define the policies of the Association with respect to its relations with component and constituent societies, its relations with other organizations, and its relations with the body politic.

We firmly believe that the doctors of Michigan owe whole-hearted support to the American Medical Association and should manifest that support and loyalty by becoming fellows. Again we urge—Do it now.

Editorial Comments

The Grand Rapids profession is expecting you to come and be their guests during the state meeting, September 11-12 and 13th. You should plan to attend this meeting.

We direct our readers' attention to the very interesting Report of the Public Health Committee of Wayne county. This will be found under County Society news. It reveals a splendid activity on the part of Wayne county.

As a member of your county and state society you are a member of the American Medical Association. You are NOT a fellow of the A. M. A. To become a fellow you must make application and pay annual dues. As a doctor, as a member of your county and state society, you should become a fellow of the A. M. A. Send in your application now.

Yes, we are devoting considerable space to reports on work being done by the American Medical Association. We feel that our members should become more familiar with the activities of our na-

tional organization. This national body is active in your behalf and merits your whole-hearted support. We sincerely urge that you read them.

There will be ample accommodations for our annual meeting in Grand Rapids, September 11, 12 and 13th. General headquarters will be at the Pantlind hotel. In addition first class accommodations may be obtained at Hotel Rowe, Mehrrens, Crathmore hotel and the Livingston hotel. Though these accommodations are available, we urge that you write for reservations, for Grand Rapids always has a large transient business and many tourists. To be sure of satisfactory accommodations, make your reservations now.

The American Medical Association has, during the past three years, been very fortunate in having chosen representative, keen, clear thinking presidents who have contributed much to the good of our national organization. Dr. Lyman Wilbur, the present president, reveals his capability and merit in the following extract from his address to the house of delegates:

THE HOUSE OF DELEGATES

This Association is a very interesting and remarkable organization. In some ways, it reminds me of Topsy; it has just grown up in a certain direction. It is an attempt in a great republic to get a form of representative government for the physicians of the country. It has various methods of doing its work. I will admit that it needs certain changes and certain revisions. This house of delegates should be, as it is, a great policy-making body. I think sometimes it acts as an administrative body. No legislative body can do efficient work without an effective organization.

THE BOARD OF TRUSTEES

I have gone to the meetings of the board of trustees. They are a splendid group of men. It has been my fortune and misfortune sometimes to deal with a number of boards and trustees of all sorts, and I can say quite frankly that the board of Trustees of the American Medical Association is just as good as any board of trustees in the country, but it is largely a custodial body. It does the custodial side of its work admirably.

A BOARD OF STRATEGY

What this organization needs is the thing Dr. Simmons has given it as an individual because of his peculiar position, and that is a board of strategy. It needs an administration that looks five or ten years ahead. We are plunging right along as a great medical body into all sorts of problems and difficulties. The board of trustees is meeting many of these problems.

There has been a discussion of having a member in the president's cabinet of public welfare. You cannot run a university unless there is some one who is thinking five or ten years ahead. That is my position as president of a university. I am supposed to be looking ahead all the time. You must get a board or some one of that type for this organization.

Scientific medicine is moving ahead so rapidly that in many ways we have left the people far behind and also some members of our own profession. We are mixed up in every one of the 41 different states with legislatures and boards of health. The Speaker has referred to the need of getting our policies in such condition as to stand together, and in doing that we should realize, as a national organization, that we have to expect each state organization to work out its own policy.

DECENTRALIZATION

In the war, Washington became too prominent in this country's affairs. Every governor and every legislature looked to Washington during that time. That is a weakness. We must get decentralization of organization to force responsibility on the state organization, so that it will take the initiative in meeting its local conditions. It is a great problem in organization to get men at headquarters so that there is good management and wise provision for the future, so that each state may get the benefit of all information that comes in at headquarters, and that each state, as far as possible, be left to work out its own problems, and in its own way. This can be done. If you should make the present board of trustees such a board of strategy as I have outlined, they can carry this movement forward.

Some group of men must be thinking of what is going to happen to medicine in this country five, fifteen or twenty years from now.

What are the conditions under which medical students will be practicing fifteen or twenty years from now, and what is the Association to lay down as a groundwork so that the profession can go on with increasing opportunities, increasing responsibility and increasing service? It is a great task. It requires a great deal of thought, but it can be done.

One of the greatest functions of this Association has been the education of the medical profession through meetings like this, through publications such as *The Journal*. I wonder how many of you realize the enormous influence *The Journal* has exerted on medical education. Every physician has to learn something daily or he is going backward.

THE JOURNAL

The Journal of the American Medical Association, under the leadership of its editor and general manager, has been a source of inspiration and direction for the members of the profession. Every man in the profession has had not only to get scientific training through *The Journal*, but also a certain amount of technical training, and has had the opportunity to become informed as to what is going on in medical education and legislation, and the job has been so well done that we have accepted it. It is going to be a great task to work out the different problems in the years to come, and it will require great thought on your part if we are going to do as much for the profession in the future as we have done in the past. Think for a moment of the problem of the man who is on what we might call the borderline of medical practice, serving the public somewhat more than he is any individual patient. Think of the attitude of the public toward him, and realize that this is the element that is growing in medical practice. There is less service to the individual by the profession and more service to the public, and the public is being served through the individual more than ever before, and it requires many points of view to bring about a satisfactory division of public relationships under these conditions. It can be done, but it cannot be done unless we are willing to think it out thoroughly and unless we are looking ahead.

THE SCIENTIFIC SECTIONS

The most striking thing about this organization to me is the scientific sections. If you will study the organizations of these sections and look over the types of papers that are read, you can see great prospects in the development of American medicine. The real strength of the organization lies in its sections, and they are vital forces to the organization.

If there is anything in this whole scheme, it should be one of harmony of all the policies that go to

make up medical progress viewed in its broadest sense. Such an organization as this, while it must devote major thought to the major part, must never forget the others. We must look out for the general practitioners; but if we should look out for them alone, we would lose one of the great functions of this organization, which is to get the best thoughts of those in medicine, and bring them within our door. That has been done up to date.

PERIODIC PHYSICAL EXAMINATION

There are a number of other points I have been requested to bring to your attention, two in particular. One is the increasing interest throughout the country for some form of periodic physical examination. This, if carried out, will afford the greatest possible opportunity of scientific medicine. It is a sad thing when a man wants to know where he stands in the world, and comes for an examination and is not given a thorough examination, but is laughed at, and the doctor tells him, "you are all right"; "don't come for an examination unless you are mighty sick or have a temperature of 105." Physicians ought not to take such an attitude, although it is the attitude that modern medicine takes in regard to the normal man and serves to isolate him against the diseases of his body. The physician should study biologic reactions of the man and help him to meet the problems that come to him in the way of disease. The physician should have a record of how the man stands when he first sees him, and compare that record with his condition six months hence; then he has something to stand by. If we could get that carried out through intellectual groups we would do more good than all the cults and faddists. There is no doubt in my mind that this is one great weakness. We are trained to think in terms of disease, and we must now turn our attention to thinking in terms of being well; when we do, the people will rally to us in a new way.

REPORT OF THE BOARD OF TRUSTEES

To the Members of the House of Delegates of the American Medical Association:

SUBSCRIPTION DEPARTMENT

In the tables in the addenda to the Trustees' report will be found the main facts regarding the circulation of The Journal covering last year—1922. Table 1 indicates that there were 4,204,844 copies of The Journal printed, and a weekly average of 80,862. Table 2 shows the number of physicians in the United States, the number receiving The Journal, and the approximate percentage in each state (the copies sent to the U. S. Army, the U. S. Navy, the Public Health Service and to advertisers, and the complimentary and exchange copies are not included). It will be noted that in 27 of the states more than 50 per cent of the physicians are receiving The Journal. Minnesota shows the highest percentage, 69; North Dakota the next highest, 67; California, Connecticut and Illinois, 65. Table 3 indicates the number of Fellows and subscribers each year from January 1, 1900, to January 1, 1923, and shows that with two exceptions there has been a steady annual increase in the number of Fellows, the exceptions being in 1911, a decrease of about 240; and in 1918, of about 700. There also has been a steady, consistent increase so far as subscribers are concerned, although the number of these is more likely to go up and down than the number of Fellows, for the reason that the Fellowship roll is continually being augmented by transfers from the subscription list. The vast majority of Fellows originally were subscribers, and were transferred

to the Fellowship list; last year 2,898 were so transferred; in 1921, 3,329; and in 1920, 3,914.

For the first time in many years, there was an actual falling off in the bona fide circulation of The Journal. This occurred only once before, viz., in 1916, the second year of the World War. The decrease last year was only 112, and this could be explained by the fact that the government services decreased their order by 136. However, there has been quite a little falling off because of the \$6 subscription price; many physicians have written that they understood the increase in price was to be only temporary, and that the \$5 rate soon would be restored.

SPECIAL JOURNALS

A satisfactory report can be made regarding the five special journals now being published by the Association. The circulation of the Archives of Internal Medicine for 1922 was 2,526; of the American Journal of Diseases of Children, 2,841; of the Archives of Neurology and Psychiatry, 1,203; of the Archives of Dermatology and Syphilology, 1,316; and of the Archives of Surgery, 2,931.

In considering the circulation of these five journals, it is well to bear in mind that all are of special character and appeal not so much to the general practitioner as to the physician who is specializing in some particular line. For instance, we cannot expect that the Archives of Surgery will appeal to any but the more progressive surgeons. So also with the Archives of Internal Medicine: it is a medium for the publication of extended articles—articles representing advanced work and thus appealing only to the progressive internist. The American Journal of Diseases of Children appeals to the pediatrician, and to the progressive general practitioner, who is especially interested in this branch of medicine. The Archives of Neurology and Psychiatry and the Archives of Dermatology and Syphilology naturally have a limited circulation, since they appeal practically only to those who limit themselves to the specialties represented by these two journals.

Three of these journals—the Archives of Internal Medicine, the American Journal of Diseases of Children, and the Archives of Surgery were published at a profit; two—the Archives of Neurology and Psychiatry and the Archives of Dermatology and Syphilology—at a slight loss. There was a net gain on the special journals of \$9,266.85, but only actual cost was charged against them; i. e., no overhead was included. It may be that your Board of Trustees will find it convenient to reduce the price of the American Journal of Diseases of Children and also of the Archives of Internal Medicine, unless there should be an increase in the cost of their production. On the contrary, it may be necessary to increase the price of the Archives of Neurology and Psychiatry and of the Archives of Dermatology and Syphilology. However, the board proposes to consider this question at its fall meeting; at that time it will be possible to estimate the developments of the present year. It is unnecessary to say that the object of the Association is to supply these high-class scientific periodicals at only slightly above cost. The printing plant of the Association, its various facilities for procuring material, etc., make it possible to publish and to supply these special journals to subscribers at a less cost than they otherwise could be supplied.

AMERICAN MEDICAL DIRECTORY

The Eighth Edition of the American Medical Directory has been completed and will be in the hands of the subscribers before this session is held. Eight thousand five hundred copies have been printed. The number of prepublication subscriptions was practically the same as two years ago—

approximately 7,000; presumably the demand for the book after publication will be as great as that for the Seventh Edition. It is impossible to tell definitely what the actual income on an edition is until it is known how many copies are sold before the next edition appears. The financial report for the last edition shows that the expenses were \$136,884.39; and the receipts from subscriptions, advertising, etc., \$135,045.40; thus there was an apparent loss on the Seventh Edition of \$1,838.99. However all the expenses connected with the Biographical Department was being conducted before the publication of a directory was given consideration; the work carried on in it is a continuing one, but inseparable from that connected with the Directory. But the work in this department and that on the Directory are so closely connected that it is impossible to separate the charges. Under all the circumstances, the Directory may now be regarded as self-supporting.

HYGEIA

An active campaign of promotion of Hygeia was begun among physicians in December and continued until about the middle of March. This promotion was in the form of advertisements in *The Journal* and through circulars. This campaign resulted in securing approximately 15,850 orders. About the middle of March, at the time the periodical appeared, a similar, active campaign was inaugurated among the public, appeals being made through circulars and personal letters to presidents of universities, state and county superintendents of schools, educational boards, women's clubs, teachers, etc. On the first of May, there were about 19,500 subscribers, the majority being those who had accepted the special offer. Since the first of May, orders have been continuing to come in at the rate of about twenty-five a day.

THE PROPAGANDA DEPARTMENT

The interest on the part of the public in *The Journal's* educational work on the nostrum evil, quackery and pseudo-medicine increases yearly. Especially does the public show an intelligent appreciation of the task which the American medical profession has assumed of warning the layman against the pitfalls of the nostrum vender, the cultist and the quack. More letters from laymen were received during the last year than in any previous year. The activity of various lay organizations (women's clubs, chambers of commerce, advertising associations, etc.) which have called on the Propaganda Department for information also reflect the interest of the public. Letters have come not only from every state and every dependency of the United States, but also from such widely separated places as Australia, China, New Zealand, the British Isles, France, Germany, and some South American countries.

Although there is a noticeable laxity in the advertising standards of many newspapers and magazines, there are an encouraging number of lay publications that honestly try to protect their readers against fraudulent medical advertising copy. As a result, the number of inquiries from men and concerns interested in truthful advertising has steadily increased. Then, too, a not inconsiderable portion of the correspondence of the department has been with teachers and students of schools and colleges. The fact that several standard textbooks on home economics, civic biology and related subjects deal at least incidentally with the nostrum evil explains this interest on the part of students and teachers.

The second volume of "Nostrums and Quackery," which has now been on the market for more than a year, is selling steadily. Since the issuance of "Nostrums and Quackery," the individual pamphlets

on the nostrum evil have been brought down to date, re-edited and new editions published.

There is no question that the commercialization of the pseudoscientific vagaries of Albert Abrams of San Francisco is the most remarkable phenomenon of its kind since the days of the historic Perkins' Metallic Tractors. Certain members of the medical profession were at first disposed to give Abrams and his theories serious consideration, but with the publication of various articles on these subjects in the Propaganda department of *The Journal*, Abrams' clientele shifted from that of the low-grade medical man to the osteopath. The unprecedented publicity given Abrams through sensational lay magazines, and the fact that the exploitation appeals alike to the faddist and to the mercenary, are responsible for the attention that has been given the subject. The material published in the Propaganda department of *The Journal* has been reprinted in pamphlet form with additions from other sources. Thousands of these reprints have been called for by the profession and the public, and the demand continues.

The first issue of Hygeia has brought to the Propaganda department additional inquiries on the subject with which the department deals, and there is every reason to believe that as Hygeia becomes better known the department will be called on more heavily than ever before, for the attention of the public will be drawn to the fact that in the Propaganda department the public and the profession have a clearing house for information on the nostrum evil and quackery, and that the data it furnishes are both reliable and authoritative.

COUNCIL ON PHARMACY AND CHEMISTRY AND THE CHEMICAL LABORATORY

During 1922, the Council and the Chemical Laboratory have continued their work in the interest of rational therapy. Each year finds an increasing number of physicians who are supporting this work, for the profession is realizing that the Council provides it with unbiased and dependable information concerning proprietary and new therapeutic agents.

The second volume of "Propaganda for Reform in Proprietary Medicine" was issued during the year, bringing the informative material up to date and making more available the important reports of the Council, the Laboratory and *The Journal* issued from 1917 to May, 1922.

The Council is devoting, and must continue to devote, a considerable part of its time to the routine examination of the new proprietaries that are brought out yearly. An increasing number of American firms are engaged in producing what promise to be worth-while additions to our materia medica. Even France, which in the past has been content with supplying for the most part ordinary drugs or drug mixtures under fancy titles or in fancy packages, is beginning to send to this country some of its products of importance.

The shotgun proprietary mixtures which handicapped scientific medicine fifteen or twenty years ago now give little concern. Today the pressing problems are the "mixed" vaccines, the pluriglandular preparations, products especially elaborated for intravenous therapy, and the attempts to commercialize our new knowledge of vitamins. The Council continues to examine each "mixed" vaccine that is offered, but has accepted few of such mixtures. In spite of an extensive propaganda by certain firms which specialize in the manufacture of mixtures of endocrine substances, little, if any, scientific, controlled, clinical evidence has been presented to justify the almost ludicrous claims made by promoters.

During the year the Council has issued three reports bearing on vitamins: "Yeast Preparations," "Therapeutic Research into the Clinical Field of

Yeast," and "Yeast Preparations and Vitamin B Concentrates." These reports will, it is hoped, convince physicians that vitamin deficiency is best overcome by the selection of proper foods and not by the use of proprietary preparations claimed to be vitamin concentrates.

As the routine work of the Council is becoming systematized, more time is given by the members of the Council to broader questions concerning medical advance. At the present time, an appeal is being formulated against unnecessary intravenous medication, which, the Council believes, should be limited in application; its use in those cases in which there is no definite warrant for the procedure is still a serious menace both to medical science and to public welfare.

The changing tendencies of the times are best shown by the methods used to introduce new drugs. In years gone by, the favorite method of introducing a new drug was by supplying physicians with free samples. In return the promoter asked for—and frequently received—reports from the physicians as to the results they obtained from the use of these samples. The ability properly to weigh clinical and empiric evidence is not accorded to every observer; therefore, uncritical, laudatory reports were the rule, and these were promptly published. It required considerable time and controlled experimental work to produce accurate evidence to counteract such hastily published testimonials. Today, physicians look with a more critical eye on the evidence for new drugs, and the far-seeing manufacturer hesitates before investing money in a new drug that does not possess real merit. The Council has adopted a plan which, in time, should do much to prevent the flooding of the market with drugs that eventually will be found of little value. The plan includes the issuing of preliminary reports which enable the clinician to experiment with products of known composition that seem to have therapeutic promise.

The Chemical Laboratory continues to aid the Council in passing on new substances through an examination of the claims that are made for them regarding their chemical composition. It gives much time to the elaboration of standards for products that are admitted to New and Nonofficial Remedies, and thus insures that the products accepted for the book shall be uniformly reliable composition. The Laboratory answers many inquiries in regard to the composition of medicines which come to The Journal from its readers; and, when the requested information is not available and the subject of inquiry is of sufficient importance, it undertakes analysis of these products. The Laboratory is largely responsible for the fact that the secret nostrum exploited to the profession is waning. Furthermore, it endeavors to accomplish a certain amount of original investigation in fields of materia medica.

APPROPRIATIONS FOR RESEARCH

For many years the Board of Trustees has provided funds for the encouragement of research. This money is distributed through two committees: the Committee on Scientific Research and the Committee on Therapeutic Research. The grants are made to investigators of recognized ability and, in the main, provide funds only for the purchase of materials.

The committee on Scientific Research is composed of: Dr. Ludvig Hektoen (chairman), Chicago; Dr. F. F. Russell, Washington, D. C.; Dr. Herbert C. Moffit, San Francisco; Dr. G. N. Stewart, Cleveland, and Dr. Charles H. Frazier, Philadelphia. The object is to further meritorious research on subjects relating to scientific medicine and of practical interest to the medical profession, which otherwise

could not be carried on to completion. During the year the following appropriations were made:

Grant 55: \$200, to Reynold A. Spaeth, School of Hygiene and Public Health, Johns Hopkins University, for a study of the influence of fatigue on infection.

Grant 56: \$200, to John F. Churchman, Loomis Laboratory, Cornell University, New York, for a study of the action of certain chemicals in the treatment of acute arthritis.

Grant 57: \$250, to Yandell Henderson, Laboratory of Applied Physiology, Yale University for apparatus necessary for a study of the physiology of respiration.

Grant 58: \$225, to E. B. Krumbhaar, Philadelphia General Hospital for a study of inguinal granuloma.

Grant 59: \$225, to F. W. Mulsow, University of Iowa, for a practical study of culture mediums for the gonococcus.

Grant 60: \$400, to H. M. Evans, Anatomical Laboratory, University of California, for the continuation of the study of the relation of endocrine glands to ovulation.

The Committee on Therapeutic Research is a committee of the Council on Pharmacy and Chemistry, and the funds appropriated for it are used to aid in investigating therapeutic questions. A special grant of \$1,000 has been made to a committee appointed by the Committee on Therapeutic Research to investigate the toxicity and availability of local anesthetics. This work has been in hand for some time, and much valuable information regarding this important question is being secured. The committee is composed of: Dr. Emil Mayer, (chairman), New York (laryngology); Dr. Robert A. Hatcher, secretary, New York (pharmacology); Dr. Elliott C. Cutler, Boston (surgery); Dr. Henry S. Dunning, New York (stomatology); Dr. Robert S. Lamb, Washington, D. C. (ophthalmology); Dr. David I. Macht, Baltimore (medicine); Dr. Charles Norris, New York (pathology), and Dr. Alexander Randall, Philadelphia (urology). The committee has formulated a plan for carrying out an extensive investigation, and it is believed that the results will prove interesting and of practical value. To indicate the general character of the work carried on under the direction of the Committee on Therapeutic Research, we submit a list of the investigations conducted under the committee, the results of which were published during 1922:

The Effects of Some New Local Anesthetics: M. L. Bonar and Torald Sollmann: *J. Pharmacol. & Exper. Therap.* 18:467 (Jan.) 1922.

Uterine Effects of Intravenous Injections of Fluids: H. G. Barbour and F. H. Rapoport: *J. Pharmacol. & Exper. Therap.* 18:407 (Jan.) 1922.

Studies of Strychnin: Soma Weiss and R. A. Hatcher: *J. Pharmacol. & Exper. Therap.* 19:419 (July) 1922.

Seat of the Emetic Action of the Digitalis Bodies: R. A. Hatcher and Soma Weiss: *Arch. Int. Med.* 29:690 (May) 1922.

Action of Emetin Hydrochloride upon the Uterus: Paul Martin: *Am. J. Obst. & Gynec.* 3:241 (March) 1922.

Experimental Erysipelas: F. P. Gay: *J. Infect. Dis.* 31:101 (Aug.) 1922.

The Treatment of Syphilis by Mercury Inhalations: History, Methods and Results: H. N. Cole, A. J. Gericke and Torald Sollman: *Arch. Dermat. & Syph.* 5:18 (Jan.) 1922.

The Relative Therapeutic Efficiency of Arsphenamine and Gelatin Arsphenamine: Jean Oliver: *Proc. Soc. Exper. Biol. & Med.* 20:56, 1922.

BUILDING

The report of the Board of Trustees last year contained a brief historical outline of the Association property and building; referred to the fact that the previous year—1921—the Trustees considered it advisable, on account of the high cost of labor and material, to postpone the erection of the additions, and stated that by the time of their annual meeting in February prices had gone down sufficiently to make them feel justified in authorizing the completion of the plans. The general contract was signed, May 29, 1922, but the contract for the steel—the most important item among the material—was signed, June 31, at a price of \$62.50 a ton erected. The next day (July 1) the price advanced, and in-

creased steadily until it reached \$102 a ton. In view of the fact that it is requiring approximately 800 tons, this item is an important one. Other prices—of labor and of material—also went up almost immediately after our various contracts were signed.

Progress on the building has been extremely slow, owing mainly to labor conditions. The addition on the east, covering the 40 foot lot purchased last year, was sufficiently completed the middle of April to permit of the transfer to it of several departments. At the present time, the outlook is that the complete building will be ready for occupancy sometime late in the fall.

When completed, the Association will own a building, 160 feet on Grand Avenue and 100 feet on Dearborn Street, with six stories and a high basement, of steel and concrete construction—a building which, while not ornate, will be substantial, a credit to the Association, and well fitted for the purpose for which it has been constructed.

REDUCTION IN DUES

At the last meeting of the House of Delegates, the By-Laws were modified authorizing the Board of Trustees to change the annual dues, under certain limitations. At its last meeting, the board favorably considered reducing the annual dues and subscription to the old rate of \$5. Final action will be taken at the October meeting, and unless unforeseen developments warrant otherwise, the board will at that time order this decrease put into effect.

REORGANIZATION OF THE BOARD OF TRUSTEES

It is the unanimous opinion of the Board of Trustees that the three-year period of Trusteeship is too short to enable a member to gain a sufficient knowledge of the affairs of the Association to make his services of real value; that it takes two years before he becomes thoroughly acquainted with all its various activities. Further, the three-year term and the election of three members annually may result in a majority of the board being replaced by new members in too short a period; in fact, this has occurred: In 1907-1908, within a period of approximately twelve months, five new and inexperienced men were elected to membership on the board. Since 1883, at the time *The Journal* was started and the board created—forty years—fifty-nine Fellows of the Association have served as members of the Board of Trustees: twenty-three, from one to three years; seventeen, from four to six years; eight, from seven to nine years; five, twelve years, five, fifteen years; and one, eighteen years.

The board unanimously recommends that the term of service shall be five years and that a Fellow shall not be eligible to serve more than two consecutive terms as a Trustee. In the case of an election to fill a vacancy caused by the resignation or death of a member, the new member shall be regarded as having served one term, provided he has served three years.

The president, the president-elect, the speaker and the Board of Trustees all have certain duties and responsibilities in the administration of the affairs of the Association and the carrying out of the policies adopted by the House of Delegates. There should be co-operation of all these. The board believes that this co-operation would be more easily accomplished and the duties and responsibilities carried on more efficiently if the president, the president-elect and the speaker were ex-officio members of the board. As the Association is incorporated in Illinois, and the statutes of the state place the responsibility for the administration of financial affairs and the care of the property of a corporation upon the board of directors—in this case, the board

of trustees—who are duly elected members of that body, it was considered wise to consult the attorneys of the Association regarding the matter. The attorneys have given the opinion that the president, president-elect and speaker may be ex-officio members of the board without the right to vote, but otherwise to have equal power with the duly elected members.

It has been the practice of the board recently to invite these officers to attend its meeting, and the board of trustees now recommends that the constitution and by-laws be changed to make these officers ex-officio members of the board.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

At the annual session in 1922, last year, you authorized the board of trustees to create a bureau of legal medicine and legislation; the activities of the Association along these lines had, since 1910, been under the jurisdiction of the council of health and public instruction. In accordance with this authorization, the board of trustees established this bureau, and elected as its executive secretary Dr. W. C. Woodward, formerly commissioner of health of the District of Columbia, and later of Boston. Dr. Woodward is especially qualified for this position, not only because of his active work in the past in public health and medicolegal matters, but also because, while a resident of Washington, he had much experience in connection with federal legislation as pertaining to the District of Columbia. He is further qualified because he has had legal training and holds a degree of Master of Laws. His report for the year to the board of trustees will be found among the addenda to this report. Dr. Woodward will present an abstract of his report to the house.

DEATH OF DR. ALEXANDER R. CRAIG

On September 2, 1922, Dr. Alexander R. Craig, Secretary of the Association, died at his country home in Maryland.

The majority of the Fellows and members of the Association never will know the loss sustained in the passing of Dr. Craig. He was so modest, so free from any assumption of unusual knowledge and so entirely devoid of a dictatorial spirit that his great influence made itself known by accomplishment rather than by a display of effort to bring about results. His advice and counsel were especially valuable in the many difficult problems presented in the program of organization of the profession which came under the jurisdiction of his office. He was always able to see the point of view of the other fellow, and his adherence to the principles of the Golden Rule enabled him to bring harmony out of what gave promise of discord. He not only filled the position of Secretary of the Association efficiently, but he was also the secretary and executive officer of the Council on Scientific Assembly and of the Judicial Council. As secretary of the Judicial Council, his character and exceptional tact were evident. He was a rare type of man, with a spirit devoted to service for this Association, which he loved.

On the death of Dr. Craig, Dr. Olin West, the Field Secretary of the Association, was assigned to the work of the Secretary, and at the meeting of the Board of Trustees held Nov. 16, 1922, Dr. West was appointed Secretary of the Association for the unexpired term.

A. M. A. BULLETIN COMPLIMENTARY TO FELLOWS

In his report, the Secretary recommends that the A. M. A. Bulletin be sent complimentary to Fellows of the Association, as well as to officers of state

and county societies as at present. The Trustees endorse this recommendation.

AN APPRECIATION

For a period of twenty-five years, Dr. George H. Simmons has devoted his entire time and energy to service for the Association. The members of the board are unanimously of the opinion that an expression of appreciation should be made to him at this time. As Editor and Manager, he has manifested remarkable literary ability, and it is due chiefly to his editorial management that The Journal is recognized as the foremost general medical publication of the world, with a circulation at home and abroad of 80,000 copies weekly. He has shown rare and efficient administrative skill, which has won the respect and confidence of all the general officers, the members of the Board of Trustees, the members of the councils and committees, the personnel at headquarters, and the Fellows of the Association who have been fortunate enough to come in close contact with him. He has been honest, individually unselfish, loyal, and his efforts have been productive of the greatest service to the Association.

Respectfully submitted,

Oscar Dowling,
Charles W. Richardson,
D. Chester Brown,
W. T. Sarles,
A. R. Mitchell,
Walter T. Williamson,
Frank Billings,
Wendell C. Phillips,
Thomas McDavitt.

REPORT OF THE BUREAU OF LEGAL MEDICINE AND LEGISLATION

To the Board of Trustees:

The creation of a bureau of legal medicine and legislation, at headquarters was authorized by recommendations made by the reference committee on legislation and public relations, on hygiene and public health and on reports of officers, all adopted at the St. Louis session by the house of delegates. The scope of the proposed bureau was stated at some length in the report of the reference committee first named, as follows:

The committee recognizes in the several reports of officers, and in the report of the Council of Health and Public Instruction, a consensus of opinion that a central bureau should be established for the consideration of all legislative matters pertaining to medicine or the practice of medicine, and of the public health, relieving the Council on Health and Public Instruction of these duties, which must be carried out in view of the extension of the functions of the Council in the matter of public education and it is recommended:

1. That the trustees be memorialized to establish a bureau of this character, under whatever name, with such whole-time assistance as may be necessary, the duties of which shall pertain to legislative matters and medicolegal problems in which the whole medical profession may be interested, and which shall be to a (a) coordinate the activities of the several constituent state associations, (b) ascertain and crystallize the opinions of the medical profession and the said constituent state associations, and (c) represent the American Medical Association.

In this connection, your committee desires to point to the desirability of the national organization reflecting the will of the great bulk of the medical profession, and that the bureau contemplated and these recommendations should act in matters of general policy, following instructions of the House of Delegates, or in emergencies following expression of opinion from the proper authorities of the several constituent state associations.

In this connection, further, it is recognized that the details of organization and operation of the contemplated bureau may not be decided upon at this time. The discussion of this problem in the report of the Council on Health and Public Instruction is referred to.

Having been appointed executive secretary, I entered upon my duties, June 9. I respectfully submit the following report of my activities for the year next ensuing. The following are the more important

matters that have come before the bureau during that period:

NATIONAL PROHIBITION ACT

The following resolution, adopted by the house of delegates, was referred to the Bureau of Legal Medicine and Legislation for action:

Whereas, The medical profession has been subjected to criticism and unfavorable comment because of present conditions associated with the enforcement of the Volstead law, and

Whereas, The results of a referendum conducted by The Journal of the American Medical Association, covering 54,000 physicians, indicates that 51 per cent of physicians consider whisky "necessary" in the practice of medicine, and

Whereas, The dosage, method, frequency and duration of administration of this drug in any given case is a problem of scientific therapeutics and is not to be determined by legal or arbitrary dictum, and

Whereas, The experience of physicians, as reported in The Journal, indicates that the present method of control, limitation of quantity and frequency of administration, licensure and supply of a satisfactory product constitutes a serious interference with the practice of medicine by those physicians who are convinced of the value of alcohol in medical practice, therefore be it

Resolved, That the House of Delegates of the American Medical Association in convention assembled, representing a membership of over 89,000 physicians, appeals to the Secretary of the Treasury and to the Congress of the United States for relief from the present unsatisfactory conditions, and recommends that provisions be made for supplying bonded whisky, for medicinal use only, at a fixed retail price to be established by the government.

An appeal was made to the Commissioner of Internal Revenue to limit the distribution of whisky for medicinal use to whisky bottled in bond, except in those cases in which the quantity ordered by the physician did not correspond with the quantity in any such container. As a result of that appeal and of the activities of other agencies toward the same end, the Commissioner of Internal Revenue, with the approval of the secretary of the Treasury, Dec. 22, 1922, issued Treasury Decision No. 3418, which provided that after April 1, 1923, only such spirits, not including alcohol, as are bottled in bond may be withdrawn for medicinal purposes from distillery warehouses and other like establishments. This decision will gradually make bottled-in-bond liquor available in all retail pharmacies holding retail liquor permits. The advisability of restricting retail sales to bottled-in-bond packages and providing for the issue of packages in such sizes as will make such retail distribution convenient and economical is now under consideration in the office of the prohibition commissioner.

Wholesale liquor permits issued only to venders of "patent" and proprietary medicines. The prohibition commissioner, March 17, 1923, notified a firm of pharmaceutical chemists that had applied for a wholesale liquor permit that such a permit could not be issued because the firm did not sell "patent" and proprietary medicines. The matter was brought to the attention of this bureau, which thereupon took the matter up with the prohibition commissioner. The firm directly affected by the demand, although it had not theretofore sold "patent" and proprietary medicines and had no desire to engage in the business, put in a stock of such articles in order that the business of the establishment might not be interfered with, and thereupon a wholesale liquor permit was issued. It is to be presumed, of course, that the ruling and practice of the prohibition commissioner, with respect to the sale of "patent" and proprietary medicines, is general in its application. An effort is being made, therefore, to find the basis for it, so that corrective action may be instituted.

HARRISON NARCOTIC LAW

Proposed inquiry into narcotic addiction. At the

St. Louis session, the house of delegates adopted the following resolution:

Resolved, That the House of Delegates of the American Medical Association approve House resolution number 258 (House of Representatives, Washington, D. C.), providing for a select committee of fifteen to inquire into the subject of narcotic conditions in the United States, the personnel of the Congressional committee to include all physicians who are now members of the House of Representatives.

The resolution then pending in congress, to which the resolution of the house of delegates related, lapsed at the close of the sixty-seventh congress, March 4 last, not having been acted on.

Reduction of tax under Harrison Narcotic Law. An effort has been made to procure a reduction in the tax imposed on physicians under the Harrison Narcotic Act, which can be effected only by congress. Through the courtesy of Honorable John J. Kindred, a representative from New York and a fellow of this association, a bill to accomplish that end was introduced. The sixty-seventh congress expired without having acted on it. A revision of the revenue act of 1921 will probably be undertaken by the congress that is to convene in December next, and the desirability of reducing the narcotic tax imposed on physicians has been brought to the attention of the prospective chairman of the house committee on ways and means, which will have the revision in charge.

Model state narcotic law. There was received, Nov. 16, 1923, from the council on health and public instruction the draft of a proposed model state narcotic law, prepared by a committee of the council in conference with various representatives of the drug trades and others. The representatives of the drug trades have referred this proposed model law to their respective principles for consideration. It has been published in the Bulletin for such action as our several constituent associations may see fit to take with respect to it. Obviously, too, views of the law enforcement officers are essential to a thorough understanding of the situation. The matter of a uniform state narcotic law is now under consideration by the National Conference of Commissioners of Uniform State Laws, through a special committee on the subject.

Narcotic and prohibition regulations to be promulgated only after notice. In prescribing and administering liquor and narcotic drugs, the physician is dominated by two laymen, the commissioner of internal revenue and the secretary of the treasury. They promulgate regulations to which the physician must conform. To these officers, the promulgation of such regulations is merely an incident in a busy day's work, and they must be guided largely by the advice of others. It seems unfortunate, however, that in the selection of their advisers they should have come to rely so largely on officers and employes serving under them, since the views of such men are unavoidably tinged by the official atmosphere in which they live. Certainly, better results would be accomplished were the commissioner of internal revenue and the secretary of the treasury to seek the advice also of the practicing physicians of the country, for that would tend toward a better understanding by the medical profession, and toward simplicity, certainty and practicability in the regulations promulgated.

This entire situation was called to the attention of the commissioner of internal revenue some time ago, and, in connection with a proposed revision of the prohibition regulations, he has since invited suggestions by the bureau. It is now understood that a preliminary draft of so much of the proposed revision as is of interest to physicians will be submitted to the bureau for criticism. Such, however, should be the ordinary course in reference to all

regulations; it should be recognized as a matter of right, not a mere matter of courtesy, for the physician to know and to discuss such legislation affecting him as is pending in the treasury department, before it is finally adopted. It is hoped that this point of view will ultimately be accepted by those vested with authority to regulate the practice of physicians in the matter of prescribing liquor and narcotics, without rendering necessary efforts to make it effective through the statutory enactment.

SHEPPARD-TOWNER MATERNITY ACT

The resolution by the house of delegates relative to the Sheppard-Towner maternity act was referred to the Bureau of Legal Medicine and Legislation. It reads as follows:

Whereas, The Sheppard-Towner law is a product of political expediency and is not in the interest of the public welfare, and

Whereas, The Sheppard-Towner law is an imported socialistic scheme unsuited to our form of government, and

Whereas, The Sheppard-Towner law unjustly and inequitably taxes the people of some of the states for the benefit of the people of other states for purposes which are lawful charges only upon the people of the said other states, and

Whereas, The Sheppard-Towner law does not become operative in the various states until the states themselves have passed enabling legislation, therefore be it

Resolved, That the American Medical Association disapprove the Sheppard-Towner law as a type of undesirable legislation which should be discouraged.

As the Sheppard-Towner maternity act had already been enacted by congress, the resolution set forth above was directed rather to state activities than to the federal situation. The bureau has confined itself, therefore, to co-operation with the state societies that have sought aid in efforts to defeat legislation looking toward the acceptance by the state of the law named. Since the last session of the house of delegates, several states have passed laws agreeing to submit to the terms of the act. Bills looking toward state submission to the terms of the act have been rejected in some instances. The act is now before the supreme court of the United States for the determination of its constitutionality.

REORGANIZATION OF FEDERAL HEALTH ACTIVITIES

A conference was called in Washington, January 17, by Brigadier-General C. E. Sawyer to consider a plan formulated by the joint committee on the reorganization of the administrative departments of the federal government for assembling all health activities of the government except those pertaining to the army and navy, all educational and welfare activities, and the work of the Veterans' Bureau in a proposed executive department, to be known as the department of education and welfare. There were present, in addition to General Sawyer, the surgeon generals of the army, the navy, and the public health service, the president of the conference of state and provincial health authorities of North America and the members of the executive committee of that organization, officers of the American Institute of Homeopathy and of the Eastern Homeopathic Medical Association, the executive secretary of your Bureau of Legal Medicine and Legislation, and others. The plan as submitted to the conference proposed that the department be called "The Department of Education and Welfare." The conference agreed, however, that if the health activities of the federal government are to be included, the department should be known as the Department of Education, Health and Welfare. The plan as officially announced to the public later did not provide, however, for this change of name. Moreover, in the announced plan it was provided that each of the four bureaus of the proposed department should be

under the direction of an "assistant secretary" and not under the direction of a "director general," as proposed in the plan submitted to the conference. The latter change suggests the possibility that the activities of the several bureaus of which the department is to be made up are to be under the direction of political appointees, liable to change with each presidential election, and not under the direction of permanent, technically trained heads. The entire matter will probably come before congress at its next session and should receive now the serious consideration of the association. It might be well for the house of delegates to define its position with respect to the matter and to instruct its officers and councils accordingly.

FEDERAL INCOME TAX

Liability of State Associations. A demand having been made on the Nebraska State Medical Association by the collector of internal revenue at Omaha for returns under the federal income tax law, with a view to the collection of the tax from that association, if any should be found to be due, the matter was referred to the Bureau of Legal Medicine and Legislation. The collector's demand was based on the hypothesis that the association, because it maintained a medical defense service for its members, lost the exemption to which it was entitled as a scientific body not organized for profit. The matter was taken up with the commissioner of internal revenue, who held that the association was not required to make the returns demanded.

Expenses of Attending Meetings of Medical Associations Not Deductible—On or about March 1, 1922, the collector of internal revenue at Marion, Ohio, notified a physician practicing in that city that traveling expenses incident to a meeting or convention of a medical society could not be deducted in computing his federal income tax. The physician appealed to the commissioner of internal revenue, but the commissioner, after having referred the matter to the solicitor, sustained the collector's ruling. The matter came to the notice of the association only through the publication of the commissioner's decision in the internal revenue bulletin of June 26, 1922. Diligent efforts were made to convince the commissioner of internal revenue that the ruling was not justified by the law and the facts in the case and to induce him to rescind it, but without effect. It is possible that relief may be afforded in connection with the proposed revision of the revenue act of 1921, to which reference has already been made. Otherwise, the only remedy is through the courts.

Search of Clinical Records Under Federal Estate Tax Law.—Representatives of the commissioner of internal revenue have recently claimed the right of search, without search warrant, of the private records of a practicing physician, in an alleged effort to determine the extent to which the estate of a person at one time treated by that physician is liable to payment of a federal estate tax. The supposed basis of the claim to the arbitrary right of search is that the deceased patient might have disposed of property some time or other in anticipation of death, for the purpose of relieving his estate of the payment of taxes. The matter has been taken up with the commissioner of internal revenue.

MEDICAL PRACTICE ACTS

The inadequacy of many of our medical practice acts to protect the public against ignorance and fraud has been shown by the efforts that have been made in various state legislatures to procure new or supplementary acts. It is shown, too, by the very large number of chiropractors and others who ply their callings without hindrance from prosecut-

ing officers and courts, in jurisdictions that are protected by what are supposed to be effective medical practice acts. Despite vigorous campaigns for better laws, in only four states, Texas, Oklahoma, Missouri and Idaho, were substantial gains made.

Chiropractors, Osteopaths, Etc.—Chiropractors have been more vigorous during the present year than ever before, in their efforts to gain legal foothold in new fields of activity. Their efforts have always been directed, too, toward establishing themselves as independent of all of the healing arts. Teaching in their schools, as they do, methods of getting business, including the art of self-exploitation, they seem to have little difficulty in raising large sums of money from their following, who get out of their contributions in the way of advertising much more than they put in. During the past year, too, they have adroitly gotten much free advertising out of the press of the country, and have won much ill-bestowed sympathy, through deliberate violations of the law and insistence on going to jail to pay the penalty, rather than pay even a small fine. This method of self and group exploitation is seemingly an integral part of their campaign for legislation, and, in order to mitigate any supposed hardship that might otherwise fall on chiropractors who go to jail, an organization is maintained which undertakes to pay the office rent of chiropractors while they are serving jail sentences in communities in which legislation is being sought, and to compensate them at the rate of \$100 per month while they are serving their terms. To see legislators seriously considering the demands of such men for the legal recognition of a cult that teaches that head lice, syphilis, gonorrhea, tuberculosis, typhoid fever, appendicitis and other diseases cannot exist without a displacement of one or more vertebrae and can be cured by replacement, makes one wonder whether after all those psychologists who gaged the mental age of the American people at 14 years, did not place the figure much too high.

In California, where liberal provisions had already been made by law for licensing chiropractors, osteopaths, and all other healers under liberal conditions, both chiropractors and osteopaths carried their respective issues before the people, under the initiative, and had them voted on at the state election. Public attention was attracted to the movement by the procuring of jail sentences for law-breaking chiropractors, and by all other available means of publicity. In their campaigns, organized chiropractors spent \$64,211, and organized osteopaths \$40,481. How much was spent by individual and by unorganized groups is not known. The result was, however, the adoption of both measures. California has now a board of chiropractic examiners and a board of osteopathic examiners, independent of rational contacts or supervision. Laws creating independent boards of chiropractic examiners were passed by the legislatures of Nevada and Tennessee. Similar laws were defeated in Alabama, Ohio, South Carolina and Wyoming.

Basic Medical Science Bills.—In an effort to require as nearly as may be possible adequate basic training of all who practice the healing art in any of its branches, so-called basic medical sciences bills were submitted to the legislatures of Maine, Minnesota and Wisconsin. These bills have sought to create in each state a non-medical board to examine all applicants in the so-called basic sciences, namely, anatomy, pathology and physiology. Applicants passing the examination were to be certified by the board for further examination by the medical licensing boards and the chiropractic, osteopathic and other such boards, where they exist. In this way, none of the boards last named could lawfully exam-

ine a candidate who had not had an adequate basic medical training, as certified to by the state board of examiners in the basic sciences. These bills uniformly met strenuous opposition from the groups that frankly recognized that their members were without knowledge of the basic medical sciences, and by reason of that fact, they were uniformly defeated.

ANIMAL EXPERIMENTATION

Organized forces opposing the use of animals for research have been active during the year. In congress, a bill was introduced to prevent the use of living animals for experimentation in connection with the army and the navy. In California and in Colorado, under the initiative, proposed laws forbidding animal experimentation came before the people to be voted on, November 7. In Louisiana and New York, bills were introduced to prohibit the use of dogs for research. In the Ohio legislature and in the Denver city council, measures were introduced to permit to be delivered to medical schools, for educational and research purposes, vagabond dogs duly impounded. None of these measures were enacted.

The situations which arose under the initiative in California and in Colorado, and a similar situation that arose under the referendum in the state of Washington with respect to the medical inspection of school children, emphasize the necessity for effective state-wide organization on the part of our constituent associations, particularly in those jurisdictions in which the initiative and referendum may be called into operation. The problem of enlightening legislatures directly and through their constituents as to the fallacies of proposed legislation is much less difficult than the problem of enlightening the people individually and as a whole, so as to induce them to vote wisely. In any event, however, whether the effort is to secure wise legislation through the legislature or by direct vote of the people, events have abundantly proved the necessity for effective organization throughout each state.

CO-OPERATION

Field Work.—The executive secretary has endeavored to meet as far as possible the wishes of constituent associations desiring his presence within their several jurisdictions. Two visits have been made to Colorado, three to New York state, and one to Connecticut and to Ohio. Visits to Washington have been made at various times for conferences with the commissioner of internal revenue, Brigadier-General Sawyer and others, on the business of the association. He attended the annual meeting of the American Public Health Association in Cleveland, the Ohio State Medical Society in Dayton, Ohio, the Connecticut Conference of Social Agencies in Hartford, Conn., and the National Anti-Narcotic Conference in Washington, D. C.

Office Activities.—A large volume of correspondence has been conducted with our several constituent associations and their members, with respect to matters of legislation, medical defense, income tax law, the national prohibition law, the Harrison narcotic law and other matters. An effort was made during the legislative sessions of the past year to keep as closely in touch as possible with state activities, but with only fair success. It is hoped that as time goes on, and as our constituent associations come to realize that the bureau is the best agency through which each association can help all others, and through which it can obtain help from all others, the bureau will be able, through their aid, better to collate and analyze for the service of each of our

several constituent associations the experiences of all.

Respectfully submitted,

William C. Woodward,
Executive Secretary.

REPORT OF THE JUDICIAL COUNCIL

To the Members of the House of Delegates of the American Medical Association:

A large number of communications have been addressed to the judicial council during the past year, some of which more properly should have gone to local councils, as they dealt with local ethical matters, the principles governing which are already set forth in the principles of medical ethics. These communications have dealt principally with questions of ethics which should be determined by the boards of censors of component county medical societies, or, on appeal, by the boards of councilors of constituent state medical associations. Of course, appeal from boards of councilors of constituent state medical associations can always be taken to the judicial council of the American Medical Association. The judicial council is not disposed to refuse to accept responsibilities that may be imposed upon it with respect to questions which can best be adjudicated by this council, but feels that the boards of censors of component county medical societies and boards of councilors of constituent state medical associations first should attempt to adjust local matters involving their own members. Adequate machinery has been provided for the fair adjudication and settlement of misunderstandings and disputes between individual physicians, or between physicians and medical societies, and adequate provision has been made for orderly appeal from decisions which may not be acceptable to parties concerned. The judicial council stands ready at all times to give advice or assistance in the settlement of questions which may be presented to boards of censors or boards of councilors; but while it is desirous of being helpful to officers of component and constituent societies, it is also desirous of avoiding even the appearance of interfering with the operations of established agencies of the county and state medical societies.

A great many communications have been received with advertisements used by individual physicians, group clinics, pay clinics and hospitals owned by individuals or groups. Practically all of the advertising that has been thus submitted, some of which has been sent anonymously, has been found objectionable. The council wishes to state, however, that the members of state associations who use objectionable advertising are responsible to and under the control of the censorial agencies of the societies of which they are members. The secretary has been directed, therefore, to refer communications of this nature to the secretary of the constituent medical association concerned, with the suggestion that they should be brought to the attention of the board of councilors, or, through them, to the attention of the board of censors of the component society concerned.

An interesting communication which was presented to the council during the year was one inquiring as to the propriety of the use of radio broadcasting stations by individual physicians for the dissemination of medical information. It is the opinion of the judicial council that radio broadcasting is a form of publicity and its use is subject to the same rules as those which apply to newspaper advertising and, therefore, is to be governed by the ethical principles of the profession. The decision of any special question concerning radio broadcasting in individual

cases falls within the jurisdiction of component medical organizations.

In a communication received from a group clinic, inquiry is made as to the ethics involved in the admission of an osteopath into the clinic group. It seems that an osteopath had actually been admitted into this particular group and that a complaint had been registered with the county medical society. The judicial council is of the opinion that it is not in keeping with the principles of medical ethics of the American Medical Association for members to associate themselves with osteopaths; that the by-laws of component societies not in conflict with by-laws of their state associations or of the American Medical Association cannot be ignored; that under the principles of medical ethics, physicians cannot act with or support those who base their practice on an exclusive dogma or sectarian system; and that physicians associated with an osteopath in a clinic or otherwise cannot be debarred from membership in the American Medical Association in the absence of action by their component society.

From another source, inquiry was made of the right of a county medical society to withhold membership or to withdraw the privileges of membership from a registered physician who graduated from an osteopathic school. This inquiry came from Texas, in which state a diploma from a high grade osteopathic school entitles the holder thereof to take the examination by the state board of medical examiners for a license to practice medicine. This examination must be in all respects the same as that to which a graduate of a medical school is required to submit, and the graduate of the osteopathic school who passes the examination successfully is granted the same kind of license to practice medicine as that granted to a graduate of a reputable medical school. The judicial council is of the opinion that a legally registered physician who has complied with the requirements of the law in securing a license by the state to practice medicine and who, having secured such license, has not practiced or claimed to practice sectarian medicine, but has conformed to the requirements of the principles of medical ethics of the American Medical Association, and who has been accepted into membership in a county medical society, cannot be expelled therefrom without cause.

It seems to be true that a concerted movement has been organized covering most of the states, to secure entrance to "regular" hospitals for osteopaths and chiropractors, and possibly for followers of other sects and their patients. In response to several inquiries, received almost simultaneously, the judicial council formulated and submitted the following opinion:

The board of control of any hospital (not maintained by general taxation) has the legal right for reasons sufficient to the board to refuse the privileges of the hospital at any time to any practitioner regardless of his so-called school of practice. The fact that the person applying for permission to bring to and treat in the hospital a particular patient is licensed by the state to practice does not alter the situation. The medical staff of a hospital likewise has the moral right to refuse to accept as an associate any person whom the staff may consider objectionable for reasons sufficient to the staff, and should insist on maintaining that right.

Section 1 of Chapter XI. of the by-laws of the American Medical Association provides that "a member of a constituent association who removes to, and engages in the practice of medicine at a location in another state in which there is a constituent association, shall forfeit his membership in this association, and the secretary shall remove his name from the roster of members of the American

Medical Association unless within one year after such change of residence he becomes a member of the constituent association in the state to which he has moved." Section 3 of Chapter XI. of the by-laws provide that "a fellow who changes the location at which he practices medicine, from the state through his constituent association he holds membership in the American Medical Association to another state in which there is a constituent association, is eligible to membership in the component society of his new location. * * * He shall forfeit his fellowship in the American Medical Association one year after such change of location unless he becomes a member of the constituent association of the state to which he has moved."

A number of the Fellows of the American Medical Association have moved to states other than those in which their membership is held. Some of these are engaged in the private practice of medicine; some are engaged in teaching, and others are engaged in other special lines of professional work. In some instances these Fellows are not eligible to membership in the county societies and state associations of the states in which they have taken up residence, for the reason that they are not legally registered as licensed practitioners in those states. In some instances, these Fellows would be required to submit to an examination by the boards of examiners in order to secure license. For that reason and for reasons sentimental and otherwise, some of these Fellows are greatly averse to relinquishing their membership in the associations of the states from which they have moved.

In the case of a teacher in the medical school of a state university, the claim has been made that he is not engaged in the practice of medicine, since he attends no patients except those seen in the university hospital in the course of his work as a teacher.

The claim is made by some Fellows of the association who have moved to other states than those in which they hold membership that because they are engaged in certain special lines of work, as for instance radiology, they are not engaged in the practice of medicine and that there is, therefore, no occasion for securing license in the states in which they have moved. Without license, they are ineligible in the medical societies of such states. They, therefore, wish to continue their membership in the societies of the states from which they have moved.

The judicial council is of the opinion that the provisions of the constitution and by-laws of the American Medical Association apply equally to those physicians who practice in institutions and to those in private practice. It is urged, therefore, that Fellows who have removed from one state to another shall seek to secure membership in the component county medical societies at their new locations within one year of the time of removal, in order that they may be continued as Fellows of the American Medical Association, and in order that they may give their active support to medical organization in the communities in which they have taken up residence.

The house of delegates, at St. Louis in 1922, provided for the appointment by the president of a special committee for revision of the principles of medical ethics. The president appointed the judicial council to serve as that committee. After a careful study of the principles of medical ethics, the following amendments are recommended:

The heading to Section 2, Article I, Chapter II., page 6, should read "Medical societies" rather than as it now reads, "Duty of Medical Societies."

The heading of Section 1, Article III., Chapter II.

page 11, should be changed by the substitution of the word, "Encouraged," for the word, "Required," so that this heading should read, "Consultations Should Be Encouraged."

The word, "may," in the third line of Section 5, Article III., Chapter II., page 13, should have substituted for it the word "should," so as to make the first three lines of this section read, "After the physicians called in consultation have completed their investigations of the case, they should meet by themselves to," etc.

The following sentence should be added to Section 1, Article IV., Chapter II., page 15, at the end of the section: "In embarrassing situations or where-ever there may seem to be a possibility of misunderstanding with a colleague, the physician should always seek a personal interview with his fellow."

The fourth line of Section 1, Article VI., Chapter II., page 18, should be changed by the elimination of the words, "by societies," and transposition of the word "endowed," so that this line shall read, "physician. But endowed institutions," and

Section 1, Article VI., Chapter II., page 19, should be further changed by the elimination of the words, "should be accorded no such privileges," which now appear at the end of that section, and the substitution therefor of the words, "have no claim upon physicians for uncompensated services." These changes will make Section 1, Article VI., Chapter II., read as follows: "Section 1.—The poverty of a patient and the mutual professional obligation of physicians should command the gratuitous services of a physician. But endowed institutions and organizations for mutual benefit, or for accident, sickness and life insurance, or for analogous purposes, have no claim upon physicians for uncompensated services."

The heading of Section 2, Chapter III., page 20, should be changed by the substitution of the words, "Public Health," for the present heading of this section.

No other changes are thought to be necessary.

M. L. Harris, Chairman.

W. S. Thayer.

I. C. Chase.

J. N. Hall.

J. H. J. Upham.

Olin West, Secretary.

REPORT OF THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

To the Members of the House of Delegates of the American Medical Association:

At the St. Louis session it was voted to recommend:

That legislative and legal matters heretofore referred to the council be transferred to the Bureau of Legal Medicine and Legislation to be created by the board of trustees with a full-time secretary.

That a sum of \$200 be appropriated for the National Health Council; that the chairman of the council be the delegate of the Council on Health and Public Instruction to this organization.

That the pamphlets of the Council on the Protection of Scientific Research, about 28 in number, be condensed into two or three pamphlets under the supervision of Dr. Cannon of the council.

That the pamphlets in the series on the Conservation of Vision, on Cancer, and on other subjects be revised and condensed into a smaller number by suitable committees, to be appointed for that purpose.

That the secretary of the council be authorized to use a sum not to exceed \$3,000, if available or procurable, for the purpose of providing such educational material (addresses, syllabi, charts and other illustrated matter) as the present immediate demands

of the medical profession may make useful for the instruction of the public.

The suggestion that food charts be prepared by the council was not approved.

It was also voted not to publish a manuscript on "The Venereal Peril" which had been prepared.

The chairman and the acting secretary of the council were directed to advise with the board of trustees in selecting a permanent secretary.

It was voted that the council invite the Medical Women's National Association to select a committee to co-ordinate the activities of their association with the work of this council.

It was voted that it would be in the interests of health and honesty in medical practice if existing statutes relative to obscenity and crime were amended so as not to hamper the licensed physician in advising his patients in the matter of prevention of conception with the proviso that he is given no right to advertise or exploit such means in any way whatsoever.

It was voted to recommend that the council be authorized by the house of delegates to prepare suitable forms for the examination of persons supposedly in health, and that county medical societies be encouraged to make the announcement that their members are prepared and ready to conduct such examinations; only the indigent to be examined free of charge, all others to pay for such examinations.

The secretary reported that a total of 141,500 pamphlets has been sent out in response to requests during the previous year.

MEETING OF THE COUNCIL, NOVEMBER 16-17

At its meeting, November 16-17, in Chicago, Dr. Vaughan was elected chairman for the ensuing year.

It was voted to send a complete file of the publication of the council to the National Health Council Library.

That Dr. Daniel Morton, who had prepared a Catechism of Public Health, be requested to submit a full text of it for further examination.

That the Bureau of Legal Medicine and Legislation be requested to use its facilities to secure the passage of the Model Vital Statistics law in the three states not having such legislation. The bureau was requested to take cognizance of the inadequacy of enforcement of the vital statistics law in many states.

In reference to the new journal for the laity, the following action was taken by the board of trustees in conference with the council:

(a) The name of the new journal will be: "Hygeia, A Journal of Individual and Community Health: Founded and Published by the American Medical Association."

(b) The journal shall appear as a monthly publication.

(c) Each issue shall consist of about 64 pages of double column reading matter set in double leaded ten point.

(d) The price of the journal will be three dollars a year, or twenty-five cents per copy.

The chairman of the council made the following recommendations which were approved by the board of trustees:

(a) The editorial control of the journal shall be vested in the Council on Health and Public Instruction with such assistance as this council may require.

(b) The executive editorial committee shall consist of Victor C. Vaughan, Arthur J. Cramp and Morris Fishbein.

(c) The Council on Health and Public Instruction will not prepare a budget for the expense of

running the journal. All such expense shall be submitted to the general manager, and it is expected that the board of trustees will pay all bills approved by the Council on Health and Public Instruction and endorsed for payment by the general manager.

In reference to narcotic drugs, the following action was taken:

The report of the conference with representatives of the professional organizations of the dentists, pharmacists, and of veterinary surgeons and of the drug manufacturing and trade organizations was accepted, and it was ordered that the draft of the proposed model state Narcotic Drug Law be transmitted to the legal bureau of the American Medical Association, with the recommendation that it be not altered without notifying members of the conference group of the proposed changes and reasons therefor.

It was voted that the preparation of literature dealing with smallpox and vaccination shall be in the hands of the Council on Health and Public Instruction, and its distribution shall be supervised by the Bureau of Legal Medicine and Legislation.

The chairman was authorized to appoint a committee to confer with Dr. Meanes of the Women's Foundation for Health, as to the revision of the booklets in the Positive Health Series of the Foundation.

It was voted that \$500 be appropriated for the financing of the educational propaganda of the council through the women's organizations where these expenses are not properly a charge on the Women's Foundation for Health or one of the constituent organizations.

It was ordered that an item be included in the next budget to defray the expense of advertising in the lay magazines the educational publications of the council, and to cover the cost of revision of these pamphlets pending such time as revised texts may be published in Hygeia.

The chairman, as editor of Hygeia, was authorized to appoint an editorial board to advise with him and the council on the policy and material for publication in Hygeia.

The Conference of State Secretaries was requested to suggest members of a committee to confer with the council on the preparation of forms for Periodic Examinations of persons supposedly healthy.

Statement of expenditures of the council was presented by Dr. West, acting secretary, showing a total expense for the year 1922, up to November 1, of \$12,933.78, leaving a balance of \$8,151.22. Detailed report is shown on a subsequent page. He also made report on the publications of the council.

COUNCIL MEETING, MARCH 16-17, 1923.

The chairman of the council stated that the first number of Hygeia was ready and that a subscription list of 12,800 had been secured.

Dr. John M. Dodson was appointed as acting secretary of the council and editor-in-chief of Hygeia.

A report of the subcommittee co-operating with the National Education Association for the study of Health Problems in Education was presented and placed on file. The report showed very gratifying progress in this important movement, and that a detailed program of training and education for health in the public schools, from the kindergarten through the normal school, is now in process of preparation by the joint committee and a technical committee of expert educators.

It was voted that Dr. Cannon be appointed a committee of one to prepare a Source Book on Protection Medical Research and also to revise and condense the pamphlets on this subject for reprinting and lay distribution.

A blank form for periodic medical examination of

presumably healthy persons was presented by Dr. Emerson, discussed by members of the committee of the conference of state secretaries. It was ordered that Dr. Emerson, with Doctors Sleyster, Throckmorton, Hines and West, of that committee, be requested to revise the form and accompanying text in accordance with suggestions made in the discussion; to prepare a final text as soon as possible with authorization to publish it in the American Medical Association Bulletin as soon as ready.

The council recommended an appropriation of \$250 for the National Health Council for the current year.

It was voted that the board of trustees be requested to appropriate the sum of \$25,000 for the work of the council for year 1923.

It was voted to hold a meeting of the council each year at the time and place of the session of the American Medical Association, this year in San Francisco, the place and exact time to be arranged by the chairman.

The reports of the subcommittees on Health Problems in Education are appended.

The reports of the subcommittee on Narcotic Drugs, and of the committee on "Periodic Examinations of Healthy Persons" were printed in the A. M. A. Bulletin for April, 1923, copies of which will be distributed to the house of delegates.

There is a continuous and steady demand for most of the pamphlets published by the council. The report to date is as follows:

Series	No. of Vols. in Series	Calls for in 1922	No. Now on Hand
Infant Welfare	7	235,520	81,176
Sex Education	5	11,300	11,325
Public Health	8	60,290	4,200
Health Problems in Education	4	3,200	15,470
Cancer	10	3,279	8,975
Conservation of Vision	20	4,432	14,950
Protection of Research	28	2,300	23,310
Miscellaneous	9	200	16,100
Totals	91	320,521	175,506

REPORT OF THE JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION

To the Council on Health and Public Instruction of the American Medical Association:

The second annual conference of the committees of the several state medical societies on health problems in education was held in St. Louis, May 23, 1922. Addresses were given by Drs. Welch of Alabama, Rankin of North Carolina, Leathers of Mississippi, McCormack of Kentucky, Hager of Maryland and Leiser of Washington. It is recommended that no further conferences of this sort be held until the members of the state committees have expressed a desire for such.

At the meeting of the National Education Association in Boston last July, \$1,000 was appropriated for the work of the joint committee, and it was recommended that a similar amount be appropriated for the use of the committee. The National Education Association also appropriated \$1,500 for the special work of the joint committee in drafting a comprehensive program of health education. It is not expected that this special appropriation will be duplicated by the American Medical Association.

Dr. William B. Owen, member of the joint committee, was elected president of the National Education Association for the current year.

Two important reports were issued by the joint committee during the summer of 1922, namely, "Health Improvement in Rural Schools" and "Health Service in City Schools." An edition of 5,000 copies of each of these reports has been printed for distribution in response to demand. The report of the chairman of the joint committee, Dr. Wood,

under date of June 19, 1922, presents an admirable summary of the activities of the committee for the last decade and of its plans for future work.

Your Committee on Health Problems in Education would recommend that diligent effort be made during the ensuing year to arouse greater activity on the part of the committees of the several state medical societies approved by the house of delegates at its meeting in New Orleans. This can be most effectively accomplished by personal contact, and we would recommend that the secretary of the council or some member thereof or some member of your committee on Health Problems in Education attend as many as possible of the meetings of the state medical societies during the coming year.

A meeting of the joint committee was held in Cleveland, March 1, 1923, at which were present eight members of the National Education Association group and two members of the American Medical Association contingent. At this meeting a detailed report was made by Dr. Wood of the progress of the technical committee in preparing a program of health education. Mrs. Ira Couch Wood presented for the special committee on ventilation and heating a report somewhat revised from that of last year. In brief, the essence of this report is that ventilation by open windows and ventilator shafts for outgoing air is more effective than any of the mechanical systems. This report is to be submitted to each of the members of the joint committee. When finally revised as approved, it was recommended that an edition of 5,000 copies be printed.

It was voted to print 5,000 copies of the report on "Daylight in the Schoolroom," prepared by a special committee, of which Dr. Edward Jackson was the chairman.

Attention is called to the fact that again this year the American Medical Association and the National Education Association will hold their annual meetings in close proximity as to time and place. This committee would recommend that the house of delegates appoint a committee of the American Medical Association to attend the meeting of the National Education Association in Oakland to convey greetings from the American Medical Association and express the great appreciation of the medical profession for the prompt and satisfactory response of that organization to the request made by the American Medical Association, at its session in Los Angeles in 1911, that more attention be paid to health problems in education.

Approved.

Victor C. Vaughan, Chairman.
W. S. Rankin.
Haven Emerson.
Milton Board.
W. B. Cannon.
John M. Dodson, Secretary.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

To the Members of the House of Delegates of the American Medical Association:

The present report of the council makes reference to (1) the progress of the year in medical education; (2) the problems in medical practice; (3) hospital improvement; (4) nurse education and service, and (5) graduate and postgraduate medical schools.

1. PROGRESS OF THE YEAR IN MEDICAL EDUCATION

Since our report a year ago, the number of medical schools in the United States has decreased from eighty-three to eighty-one through the closing by the state universities of Michigan and Ohio of their separate homeopathic medical schools. It is interesting to note that the number of medical schools

at the present time is just half the number that existed in 1906, when there were 162 colleges—the largest number—which was more than half of the world's supply and many more than were really needed in this country.

MEDICAL COLLEGES

A new medical school is being established on an elaborate plan by the University of Rochester, N. Y., and is expected to begin active teaching in 1924. Two state university medical schools, those of Wisconsin and Missouri, which now offer only two years of the medical course, are enlarging their plants in order to give the full four-year course. During the last fifteen years, in addition to many new, enlarged or remodeled buildings in medical schools, greatly enlarged medical plants have been established in eleven universities; (1) similar large plants are now under construction in five other universities; (2) and plans for large plants have been prepared for still six others, (3) and construction of the buildings will begin in the early future.

MEDICAL STUDENTS

In 1919, the total enrollment in all medical schools was 13,052—the lowest number recorded since 1890. Of this number, however, approximately 90 per cent possessed higher educational qualifications (4) as compared with only 6.2 per cent in 1904. Since 1919, the total enrollment (Table 1) in all medical schools has increased at the rate of about 1,000 students each year, the total in 1922 being 16,140, and an estimate based on reports from all but a few of the schools shows that the present enrollment is approximately 17,700, the largest enrollment since 1912. There is now an average of 218 students in each of the eighty-one medical colleges, as compared with 176 students in each of the 160 medical colleges existing in 1904.

MEDICAL GRADUATES

The class of 2,529 students who graduated in 1922 was small because it was the "war class," made up of the few students who matriculated in 1918. The larger numbers enrolled in the three following years, as may be noted in Table 1, indicate that there will be approximately 3,000 graduates this year, about 3,800 in 1924, and about 4,500 in 1925. The last figure mentioned will bring the annual output of physicians to about what it was in 1907, when there were 4,980 graduates from the 159 medical schools. In 1907 there were only 31 graduates on the average from each college, while in 1925, according to our estimate, the eighty-one colleges will graduate approximately fifty-seven students each. At present, also, more than 90 per cent of all graduates possess higher qualifications in both preliminary and professional education, as compared with less than 10 per cent of those who graduated in 1907.

MEDICAL CURRICULUM

During the last few years, in the conferences on medical education, the need of a reorganization of the medical curriculum has been emphasized. During the campaign for the greatly needed standardization and development of medical education, as the need of instruction in certain subjects was recognized they were added, so the curriculum has grown to be an accumulation of many courses with a certain number of hours allotted to each. The result has been the development of a more or less rigid

1. These universities are Cincinnati, Georgia, Emory, Johns Hopkins, Harvard, Indiana, Minnesota, Nebraska, St. Louis, Washington and Yale.
2. Universities of Colorado, Illinois, Oregon, Rochester, N. Y., and Wisconsin.
3. Universities of Chicago, Iowa, Northwestern, Ohio, Vanderbilt and Western Reserve.
4. Two or more years of college work in addition to a four year high school education.

curriculum in which the various laboratory subjects are taught in so-called "water-tight compartments." There is now a general movement in teaching to secure a better correlation between the laboratory and clinical subjects. One marked improvement has already been made. Instead of allotting in a detailed manner a specified number of hours to each minute subject in the curriculum, each laboratory and clinical department is allotted a total number of hours, which may be used by that department in the manner that will produce the best results. Thus the head of the department is free, if he thinks wise, to establish courses in co-operation with other departments, whereby a student may see the application in the clinic of the ideas he has just obtained in the laboratory.

IMPROVED TEACHING PLANTS

Another step toward bringing about a better correlation between laboratory and clinical subjects is indicated in the plans for new teaching plants which are already in process of construction or which have been adopted by several of our prominent university medical schools. The plans for the new hospitals of the Universities of Chicago, Colorado, Rochester, Vanderbilt, and others place the medical school and hospital in the same building where the laboratories are in intimate contact with the hospital wards. Such an arrangement will bring the medical student throughout his medical course in constant contact, not only with the teachers of both laboratory and clinical departments, but also with interns, house physicians, and the members of the attending staff, all in the same building where sick people are being constantly cared for. All will have a common meeting ground in the medical library, which will also be in the same building.

This single building arrangement is in marked contrast with medical schools where the laboratories are widely separated from clinical departments, the latter sometimes being in separate and distant cities. The extreme situation is found in the two-year medical schools where the student goes necessarily not only to a distant city, but also to a different medical school for his two years of clinical instruction.

The tabulation gives also, comparatively, the numbers of hospitals in the various states in the years 1921 and 1923. The number in the latter year in some states is smaller than in the previous year, owing to the fact that more than 500 "homes" have been eliminated from the list, since they were found not to have hospital departments. Names of several hospitals that have ceased to exist have also been struck from the list. The number of hospitals now total 6,570, a net increase of 334 since 1921.

2. PROBLEMS OF MEDICAL PRACTICE

The rapid expansion of medical knowledge has brought with it several problems in medical education and practice, including:

(a) The modern training of general practitioners. The training of the general practitioner is a matter of special importance since they should always constitute the great majority of physicians and will be called on to care for patients representing all varieties of diseases and injuries. This is a problem for further study by the council in the early future.

(b) The training of the specialist.—Part 5 of this report deals in full with this subject.

(c) The relationship of the general practitioner to the specialist and the proportion of each type which is needed.—Reliable estimates are that from 80 to 90 per cent of all cases of illness can be properly cared for by well qualified and resourceful general practitioners. While there is a legitimate and important field for properly trained specialists, there-

fore, the need of them should not be over-emphasized. The trouble at the present time is that many physicians are posing as specialists without having first obtained the essential training.

(d) The proportion of patients which require hospitalization.—A reliable estimate states that over 90 per cent of all patients can be cared for efficiently in their homes or in the physicians' offices without the need of the hospital.

(e) The development and function of group practice.—This is dealt with in Part 3 of this report.

(f) The measure by which the benefits of modern medical knowledge and practice can be furnished to the entire public, including the supplying of physicians to rural communities.

SUPPLYING PHYSICIANS FOR RURAL COMMUNITIES

The difficulty of providing care for rural communities is still one of the problems of medical practice. Particularly is this true in communities where the population is scattered or where the physician has to practice under extreme difficulties.

The reasons for the scarcity of physicians in rural districts are mostly economic and are briefly outlined as follows:

(a) Many physicians in rural communities graduated before medical schools had undergone the tremendous developments that have taken place during the last fifteen or twenty years. Although many of these, in spite of handicaps, have kept in touch with the progress in medical knowledge, there are some who, for financial or other reasons, could not get away to secure a postgraduate education.

(b) Recent graduates in medicine naturally prefer to live in the city with its better social, educational and living conditions.

(c) Also, aided by public choice, there has been a rapid trend in recent years for the treatment of patients in hospitals, especially where surgical procedures are required.

(d) Furthermore, with rare exceptions, hospitals are built only in cities where the population is sufficiently large to support them.

(e) With the improved transportation facilities, wealthy people in rural districts have developed the habit of obtaining most of their necessities from nearby cities. They go there, also, to secure hospital care or to physicians who have, or are supposed to have, established reputations.

(f) Except in emergencies, therefore, the country practitioner has only the mild cases and patients who are unable to or do not pay reasonably high fees.

(g) While there always has been a scarcity of physicians in rural districts, the situation became more pronounced when the war called many physicians away from the country districts. Then, at the close of the war, they took the opportunity to obtain postgraduate work and to locate in more favorable communities. Meanwhile, investigation of many rural districts from which requests for physicians have come, shows that in most of them physicians could not make a livelihood without undue sacrifice and difficulty.

It is believed that any community that can support a physician can get one if its citizens are willing to pledge themselves to guarantee an income of from \$2,500 to \$3,000 a year and to interest the community in the physician's support. This plan has worked out satisfactorily in a middle west community where the physician selected secured from his practice an income larger than the amount pledged, so that the guarantors have not been called on to pay out any money.

The points in favor of this plan are that (a) the people of the community have a voice in the selec-

tion of their physician, and (b) the fact that they have pledged themselves to his support will induce them to patronize him so far as is possible and not go to physicians in distant cities. A third point is that many young physicians are short of funds at the time they complete their medical training and will be attracted to places where some reasonable income is guaranteed. Reasonable guaranties from rural districts, it is believed, will be attractive to recent graduates and will bring a physician to any community having a population sufficient to support one.

In New Hampshire, a law has just been enacted which permits any town to appropriate sufficient money to support a resident physician when the town cannot otherwise obtain one.

3. REPORT OF HOSPITAL WORK

The council on Medical Education and Hospitals in its relation to hospitals maintains three main lines of work, namely (1) information about all hospitals, for publication in *The Journal* and in the *Directory*, (2) the list of hospitals that furnish acceptable internships, (3) information service bureau, to answer inquiries and give assistance on hospital problems.

Along with the preparation of hospital data for the eighth edition of the *Directory*, a complete canvass of all hospitals has been made. As a result, we have published in the *Directory*, not only revised data on all hospitals, but also a list of special hospitals and related institutions classified according to the kind of cases received, and a revised list of the hospitals approved for internships. The list of special hospitals is published as a convenience to physicians in referring special cases and contains 38 schools for backward and mentally defective children; 52 schools for the blind; 100 children's hospitals; 27 convalescent and rest homes; 59 schools for the deaf; 53 drug addiction and alcoholic sanatoriums; 55 eye, ear, nose and throat hospitals; 49 epileptic hospitals; 243 maternity hospitals; 548 nervous and mental hospitals; 45 orthopedic hospitals; 15 skin and cancer hospitals; 16 schools for speech defects; 577 tuberculosis hospitals; 5 trachoma hospitals.

The mass of data that has been collected from individual hospitals, and now being prepared for publication, will include reliable statistics heretofore unobtainable on such items as number of roentgen-ray departments; clinical laboratories; nurse training schools; hospitals having no resident physicians nor interns; proportion of superintendents having M. D. degree, R. N., or other; capacity and number of hospitals supported by the different units of government, as state, federal, county, municipal, as well as those supported by private means such as individual and partnerships, churches, fraternities and private corporations.

The 627 hospitals that were on the approved list for internships on May 22, 1922, have during the past year been canvassed as thoroughly as was possible by correspondence and otherwise, giving us new data about each institution for the approved list. Twenty hospitals were removed from the list, and 47 have been added, making a net gain of 27, making a total of 654 at present on the approved list. Thirty-seven hospitals that have applied for recognition are being held in abeyance pending the completion of certain improvements. The 654 approved hospitals represent a capacity of 187,314 beds and afford 3,671 internships. These internships include 3,103 in general hospitals, which would be sufficient to absorb the entire annual output of the medical colleges in the United States. The other 568 internships are devoted to the various specialties and should be considered as supplementary to a

general internship. Women interns are admitted by 183 of the approved hospitals.

Next in importance to the improvement of internships is the hospital information service of the council. The most frequent demands for assistance are concerned with plans for buildings, staff organization and administration problems touching professional ethics. A count of these service calls for certain weeks in the year indicates that the whole number of calls for information and assistance relative to hospitals was over 1,200 per year.

PRESENT NUMBERS OF PHYSICIANS AND HOSPITALS

As shown in Table 3, from figures based on the 1923 edition of the *American Medical Directory*, there are now 145,966 physicians in the United States, or 590 more than in 1921. There has been a decrease in the numbers of physicians in thirty-two states, but this decrease has been more than offset by the increases in seventeen states. The small increase in the two years is due partly to the small class—2,529—graduating in 1922, the war class, consisting of the few who matriculated in 1918. The proportion of physicians to population is now 1 to ever 724 people.

SURVEY OF GROUP CLINICS

A survey of group clinics was made in 1922 in connection with the council's survey of dispensaries. While this survey was being launched by the council, the trustees of the American Medical Association, in connection with the judicial council, was planning an investigation into the status of group medicine and pay clinics. By common consent the work of actually canvassing the clinics was done by the council on Medical Education and Hospitals, and a preliminary report was made to the trustees and to the house of delegates in May, 1922. A perpetual file of groups is now being maintained, and reports of new groups are added as their existence becomes known.

An outstanding fact about the whole subject of group medicine is the loose way in which the terms "clinics," "group," "diagnostic group," "group practice," "medical group" and a number of similar terms are ordinarily used. Out of a total of 270 groups that have been listed up to the present time, not more than 100 would answer to even a liberal definition of group medicine, and still fewer have been found to be actually correlating the services of specialists as a routine in the examination and treatment of patients. Many situations that are learned of as "groups" turn out to be simple business arrangements for the common use of a building, including the sharing of the waiting room, telephone, clerical assistance, nurses, laboratory, roentgen ray and other facilities not available to the independent practitioner. The various types of groups may be thus classified.

1. Closed Hospital Group.—Relatively very few, the members of the staff of a "closed hospital" conducting a "clinic" in a suite of their private offices, and each member of the staff usually collecting his own fee.

2. One Man Group.—More numerous than any other type. Other specialists on salaries or paid on the percentage basis.

3. Diagnostic Group.—Work confined solely to diagnosis.

4. Co-operative Group.—A group more or less closely organized for the purpose of private medical practice, the aim being for each member to be a mature specialist along a chosen line, and to care for work pertaining to his specialty.

- (a) Primitive Type: A co-operative organization

composed of general practitioners from the same community.

(b) Departmental Type: A co-operative group organization composed of men, each of whom has already devoted a certain number of years to acquiring a thorough training in some special field of medicine or surgery, and is confining his private work to that specialty.

The geographic distribution of group clinics plainly shows the influence of certain of the larger clinics from which have developed numerous others. The eight states having the highest number of group clinics, without applying a strict definition to the term are:

Wisconsin	36	Indiana	10
Minnesota	31	Washington	10
Texas	28	Arkansas	9
Illinois	13	California	9
Louisiana	11	Montana	9
Michigan	11		

On the average, there were nine physicians connected with each of the groups from which lists were received. This would make a total of approximately 2,430 physicians in the 270 groups listed.

That there is a growth in actual group medicine is certain, but the rate of such growth is hard to ascertain because of the difficulty of obtaining detailed returns from the groups. It is also certain that a large number of groups are dissolved on the death, withdrawal or removal of one or more members, and this prevents the phenomenal growth that is sometimes ascribed to group practice.

Group medicine is a type of practice which, if properly organized and conducted, will afford efficient service to the 15 or 20 per cent of the sick and injured who may require specialized treatment. However, there is an opportunity afforded the groups efficiently to aid the general practitioner in consultations, and in the diagnosis and treatment of his patients. The attitude of the group in its relations to the general practitioner should be characterized by the same fundamental principles and standard of ethics that apply to the individual physician who is called into consultation by the general practitioner.

Some of the larger and properly conducted group clinics are also providing graduate instruction both in general practice and in the specialties. Groups that develop research work and furnish a high quality of treatment can add materially to their service to the profession by providing residencies for those who seek to develop proficiency in the various specialties.

OTHER CLINICS AND DISPENSARIES

The survey of dispensaries and clinics not only gave us the most complete information yet obtained regarding group medicine, but also yielded a mass of facts that have been digested and published regarding dispensaries and clinics and in fact all forms of organizations for the examination and treatment of ambulatory patients.

Excluding group practice the number and classification of dispensaries covered by the survey are as follows:

General dispensaries	935
Special dispensaries:	
Tuberculosis	888*
Venereal disease	831*
Nervous and mental	345*
Baby and child hygiene.....	566
Outpatient departments of eye, ear, nose and throat hospitals	37
Outpatient offices and stations of the United States Public Health Service....	139
Outpatient departments of orthopedic hospitals	16

Miscellaneous	53
	2,875
	3,811
Industrial (enumeration not completed).....	134

? Total dispensaries known..... 3,944

*Including special clinics of general dispensaries as follows: Tuberculosis, 221; venereal, 344; nervous and mental, 85. Exclusive of duplications, the total number of individual dispensaries known is 3,294.

The total number of individual patients in all general and special dispensaries within a year is approximately 8,000,000, and the number of visits made by them is approximately 29,500,000 per year.

The survey brought out the fact that whereas the services of dispensaries were formerly almost entirely free, the idea of allowing the indigent to contribute a small amount, has grown until now fully 60 per cent of all the dispensaries of the country receive partial compensation from at least some of their patients. There is evidence that the abuse of medical charity in dispensaries is held down to a reasonable minimum. There is, however, absolute lack of uniformity or consistency in the schedules of charges to dispensary patients.

4. NURSE TRAINING

The suggestion regarding nurse education in the address of the speaker to the house of delegates, May 22, 1922, was referred to the council on Medical Education and Hospitals. In accordance with the instructions of the house, and after conference with the executive committee of the board of trustees, a special committee (6) was appointed to make a preliminary investigation of the problems of nurse education and to recommend what should be done.

The creation of the committee was completed early in November, 1922, and the investigation covered a period of about four months. An extensive exchange of ideas by correspondence was carried on, and the chairman held numerous conferences with groups of physicians, leaders in nursing education, and such members of the committee as were in the eastern part of the country. No complete survey of the nursing field was either possible or necessary, since the detailed report of the recent extensive survey made under the auspices of the Rockefeller Foundation was placed at the service of the committee. The wide extent of the committee's investigation, made in so short a time, is indicative of the vigor and activity of the chairman, Dr. Lovett, to whom a great deal of credit is due. The report presented by this committee to the council is abstracted as follows:

THE EDUCATION OF THE TRAINED NURSE

The growth of the nursing profession has been very rapid. In 1880 there were fifteen training schools for nurses in the United States, with 323 pupils; in 1920 there were 1,755 schools with 55,000 pupils, and the number of women applying for admission to training schools shows no signs of falling off.

The course of study in nurse training schools has not kept pace in educational development with the rapid increase in numbers. As a result, many problems have arisen which require investigation and adjusting by the co-operative action of both physi-

6. This committee consisted of: Dr. Robert W. Lovett, Boston, chairman; Dr. Austin Flint, professor of obstetrics and gynecology, University and Bellevue Hospital Medical College, New York; Dr. Lawrence R. De Buys, professor of pediatrics, Tulane University School of Medicine, New Orleans; Dr. Richard O. Beard, associate professor of physiology, University of Minnesota Medical School, Minneapolis; Dr. Thomas McCrae, professor of medicine, Jefferson Medical College, Philadelphia; Dr. Winford Smith, superintendent, Johns Hopkins Hospital, Baltimore; Dr. George B. Sommers, superintendent, Stanford University Hospital, San Francisco.

cians and nurses, and not by either physicians or nurses alone. In the hospital the pupil nurse is directly responsible to the superintendent of nurses, but on leaving the hospital, while engaged in private nursing, she becomes responsible to and acts as the assistant of the physician.

The carrying out of a sound scheme of nursing education, therefore, should be a co-operative enterprise between the physicians and the nurses, and differences of opinion should be settled by frank discussion. The best results can be obtained by a united effort of the two professions, and adequate service to the public is the reason for which both these professions exist.

PRESENT STATUS OF NURSE TRAINING

Nurse training in the United States today is not standardized, systematic or uniform in the matter of entrance requirements, length of the course, and methods of teaching. The nurse training schools connected with the great modern hospitals differ widely from those existing throughout the country away from medical centers.

Legislation cannot be looked to as a solution. All states except New Mexico have laws governing the registration of nurses. Wide variations are allowed in entrance requirement and length of course which account, perhaps, for the equally wide variations in the methods of administration of nurse training schools and in the character of the courses offered.

The defects in the training schools of today are:

1. The course, on the whole, is unsystematized, unstandardized, and far from uniform.
2. There is too little systematic instruction in practical work and too much theory, and certainly a lack of correlation between the two elements.
3. Too many of the teachers are poorly qualified.
4. There is too much waste of the pupil nurses' time in uneducational routine work.
5. Many schools are connected with hospitals having utterly inadequate clinical facilities.

CHARACTER OF NURSE TRAINING COURSE

An analysis of twenty-three schools of unreasonably typical character shows that, although the curriculums include the same general subjects, there are wide variations in sequence and methods of teaching. In certain schools, part of the fundamental instruction bears no relation to the nurses' work, and there is a wide variation of time allotted to the subjects taught. In bacteriology it varied from eleven to eighty hours; in nursing procedures it varied from 55 to 222 hours; in dietetics, from 17 to 64, and in chemistry, from 10 to 150 hours. These instances are typical of the lack of uniformity in the curriculums of today.

Theoretical effective class room instruction must be correlated with practical bedside work on patients, and this requires the co-operation of the visiting physician, the head nurse of the ward, and the superintendent of nurses. It is essential that the nurse should be trained in "doing things" as well as hearing why they should be done. There are three fundamental needs: (a) sound fundamental theory stripped of all nonessentials; (b) bedside demonstrations, and (c) practical work on patients to the largest possible extent.

EQUIPMENT OF TEACHERS

In January, 1921, there were in the United States approximately 1,800 schools of nursing and 55,000 students, graduating about 15,000 a year. Many teachers are required, who must be medical men and nurses working in co-operation.

As teachers, the medical men cannot be retained or prepared for this special task. Some will be good teachers and some bad; some will be enthusiastically helpful, while others will be indifferent and frankly

bored. The physician lectures about what he pleases, with little or no correlation with his colleagues, or with the school in general. Physicians cannot escape some blame for the present situation, and, if an attempt is made to make the nurses' training an orderly, systematic education, we are sure that physicians will assist with interest and spirit.

Some of the teaching nurses, both intellectually and pedagogically, are often unfit to teach. The teaching nurse has generally drifted into the teaching position by force of circumstances, perhaps without any adaptability. To establish an effective educational scheme will require the education of the teacher nurse; more and better instructors will be needed in an effective educational scheme, and this most important function of the university schools of nursing should be emphasized and utilized.

WASTE OF THE PUPIL'S TIME

The nurse is to be trained only by educational means and methods. In the training of an artist, a musician, a teacher, a stenographer, the education problem alone is considered; but in the training of nurses the hospital needs come in, and the hospital expenses are conserved by having pupil nurses, for an unprofitably long time, perform duties that should fall to cleaning women, maids, cooks, waitresses, messengers, head nurses, and the like. Reports state that such profitless duties consume about two hours daily, or one-fifth of the nurse's time.

Although the heavy cleaning is supposed to be done by paid workers, the dusting, cleaning and sweeping for the patients under the care of the nurse require in different hospitals from one-half hour to one and a half hours a day or even longer. In many hospitals the time devoted by the student to the cleaning of lavatories, service rooms, bathrooms, care of the linen closets, patients' clothing, the condition of the serving kitchens, and other similar duties, is far in excess of what is of practical value to her training.

Much time also is spent in special routine duties. In some hospitals the nurse gets more credit for making routine records than for caring for the patients. If she has an unusual number of very ill patients, she cannot complete the routine records, or has to slight them. But for her standing in the training school, the routine is frequently more important. A nurse has been known to be severely reprimanded because she had not kept the record of temperature of the ward each hour when she could not leave a very sick patient. Ward routine must be learned by the nurse, but the continuation of it for too long a time is without profit.

Authorities on hospital problems state that hospital organizations of the future should include a permanent staff of paid workers, trained nurses and others. The needs of the hospitals must be met, and the sick cannot be neglected; but the pupil nurse must not be sacrificed to this end. This will mean an increased cost to the hospital for maintaining the training school. The hospitals are none too well supported now, and any additional expense is to be deprecated. Nevertheless, the object of the training school is to educate nurses who are competent to care for the sick; and, if nurse-training is to be put on an educational basis, the expenditure of time on profitless ward routine duties must be reduced.

CONNECTION WITH INADEQUATE HOSPITALS

It is a question how an effective training school can be conducted with such meager clinical facilities as are offered by many hospitals.

A series of instances taken at random from the tables in a recent survey shows how inadequate is the number of patients in certain hospitals as com-

pared with the number of pupil nurses enrolled. For example: One hospital which maintained a training school had a daily average of five patients and five pupil nurses, while seven other hospitals had, respectively, 193 patients and 111 pupil nurses; 193 patients and 22 nurses; 8 patients and 7 nurses; 10 patients and 10 nurses; 21 patients and 15 nurses; 75 patients and 41 nurses, and 40 patients and 27 nurses. Adequate instruction is hardly possible in these institutions, and they should be discouraged from maintaining so-called training schools.

RECOMMENDATIONS

The recommendations of the committee were, briefly:

1. That a committee be appointed, made up of (a) physicians who are competent clinical teachers, (b) representative nurses, and (c) at least one educator who is neither a physician nor a nurse; that this committee be arranged for by the American Medical Association in conjunction with the National League of Nursing Education, each having equal representation and appointing its own representatives, and that the educator be selected by the other members of the committee when appointed.

2. That a standard minimum curriculum for the training of nurses be formulated and put into effect; that this standard define the lower level of the education of the bedside nurse; that the university school of nursing be developed in order to educate more and better teachers for nurse training schools, and that graduate courses of instruction of at least eight months' duration be established for graduate nurses who desire to specialize, to teach, or to become administrators.

3. That the educational standard of nurse training include (a) entrance requirements consisting of a four year high school education; (b) that the length of the course be two years and four months, or twenty-eight months; (c) that the waste of the student nurses' time in noneducational ward routine be greatly reduced; (d) that better teachers from both the medical and nursing professions be secured in the schools; (e) that the character and sequence of the subjects taught, the percentage of time allotted to each subject, and the correlation of practical and theoretical instruction be considered with special care, and (f) that the standard be such that it may be carried out by relatively small as well as the large hospitals.

4. That there be a classification of nurse training schools in which only those which conform to the standard outlined be considered as acceptable.

The committee appreciated the fact that these changes in nurse training schools may cause increased expenses in the hospitals maintaining nurse training schools. Nevertheless, it was believed that the improvements would more than offset this expense in preventing serious results and greater expense which might accrue to the hospitals from the present increasingly chaotic conditions in nurse education.

5. GRADUATE MEDICAL EDUCATION

Since October, 1922, an inspection of all graduate medical schools in the United States has been made by the secretary of the council and Dr. Louis B. Wilson of the Mayo Foundation. Inquiry was made in regard to the opportunities not only for formal graduate study in preclinical and clinical branches, but also for informal graduate study in hospitals through internships, residencies, etc.

Inquiry in each instance was made regarding the corporate character of the institution, its relationships to other institutions, its financial resources and annual expenditures, its teaching resources in laboratories, hospital, dispensaries, libraries and mu-

seums, the number and qualifications of its teaching staff, its standards for admission of students, the length and character of its courses of study in various fields, its methods of determining and recording the progress made by its students, and the character and form of certificates granted by the institution.

Two previous surveys of graduate medical schools have been made, the first in 1915, by Dr. Horace D. Arnold of Boston, and the secretary; the other, in 1919, by Dr. Bevan, the chairman of the council, and Dr. Louis B. Wilson, in certain instances in company with Dr. William Pepper, Dr. James Ewing, or other individual members of the council's special committee on graduate medical education.

GRADUATE EXTENSION WORK

The council calls attention to the increasing opportunities afforded to county, state and district medical societies to organize and operate once or twice each year diagnostic clinics such as those which are being conducted by the Tri-State District Medical Society, the Pacific Northwest Medical Association and others, as well as the extension courses of lectures and clinics given under the auspices of the Universities of North Carolina, Pennsylvania, Wisconsin and Washington and by several of the state medical societies and state university medical schools. The council will be very glad to co-operate with any county, state or district medical society in the securing of clinicians or other instructors when it is desired to organize similar courses or clinics. Details in regard to these courses were presented at the conference of state secretaries held last November, and the report containing the discussions was published in the January number of the American Medical Association Bulletin.

The council's present report, however, deals chiefly with the opportunities for study found in various postgraduate medical schools and hospitals.

OPPORTUNITIES FOR PRECLINICAL WORK

In several university medical schools, opportunities for graduate study in the preclinical branches have long existed, usually as a part of the graduate school of the university in which the students are working for higher degrees in arts or sciences. As far as can be seen, there has been no material in themselves of these opportunities except where graduate increase in the number of graduate students availing uate medical education is being emphasized.

ADVANCED STUDY IN CLINICAL FIELDS

The demands for advanced instruction in the clinical fields come from two groups of physicians: (1) Those desiring to prepare themselves for the practice of some specialty, and (2) those desiring to improve themselves in general practice or in the practice of a specialty in which they are already engaged.

1. Long Term Students.—The first group consists largely of (a) recent graduates who wish to fit themselves in a special field, either preclinical or clinical, and usually without having engaged in general practice as a means of livelihood; or (b) older graduates who have been in general practice for several years and who wish to fit themselves for, usually, special practice in some clinical field, using their experience in general medicine as a basis for their further study.

The larger numbers of graduate students in both of these groups are still obtaining their preparation informally in advanced internships, residencies, assistantships, apprenticeships and various minor teaching positions in medical schools and the hospitals attached thereto. Their ability to practice in a chosen field is usually a matter of self-determination, occasionally aided by advice from their immediate superiors. At present no university or ac-

crediting body certifies to their special qualifications, and there is no means for public recognition of their attainments except through membership in one or more of the associations or societies of specialists. At present only two universities, the Universities of Minnesota and Pennsylvania, have well organized opportunities for preparation in clinical fields, including supplementary study in the supporting laboratory sciences and, when the graduates have attained proficiency, recognize it by the granting of advanced degrees. The University of Minnesota gives the degrees of Master of Science and Doctor of Philosophy, modified by the name of the specialty selected. The University of Pennsylvania gives the degrees of Master of Science and Doctor of Science, modified by the words "in Medicine."

2. Short Term Students.—The second group consists of physicians desiring to make further preparation, either in general practice or in some clinical specialty in which they are already engaged. This group includes men and women of all degrees of preparation, from the most meager to the most advanced. They seek opportunities for study, ranging from a few days or a few weeks of intensive instruction to a year of laboratory or clinical experience. To provide courses of instruction, therefore, which they may take without too long an absence from their practice is a most complicated problem. There is a great need for continuation work for both the general practitioner and the specialist, aside from what is obtainable in daily practice and through personal reading, such as the new developments in diagnosis and treatment and the later diagnostic methods and operative procedures.

Too frequently the period that the practitioner can afford to take is so brief that his instructor, who is responsible for the care of patients, does not feel warranted in trusting him with any of that responsibility. Much good, however, is being accomplished by lectures and laboratory courses and clinical demonstrations, however brief. The instruction, therefore, must usually be limited to lectures, demonstrations and laboratory work. When periods of several months can be spent in one field, the instructor may gradually place clinical material at the disposal of the practitioner-student.

CERTIFICATES

A number of institutions grant diploma-like certificates of attendance to practitioner-students for unreasonably short periods of study. Two institutions, indeed, grant such certificates after one week of study. It is fundamentally wrong to grant diploma-like certificates which may be used for wall display to any except those whom the institution knows are proficient in a particular field. It is sometimes urged that these are certificates of attendance only, but the name of the student and the name of the specialty are stated in so conspicuous a manner as quickly to catch the eye of the observer. The public cannot easily distinguish between such a certificate and a diploma in the specialty named; hence they assume that the physician is truly qualified to practice the specialty named. This often false impression is all the more harmful if the certificate bears the name of some well known university or if the name of some special field, as surgery or ophthalmology, is included in the name of the institution, or if it bears the legible signatures of men widely known as specialists in any field of medicine or surgery. Such certificates may readily be, and undoubtedly are, frequently used by unqualified physicians to mislead the public as to their qualifications in the fields named on the certificates.

If a graduate school determines that one of its students is thoroughly competent to practice in any specified field of medicine or surgery, there is no

reason why it should not give him a certificate or confer on him an advanced degree. If, however, it does not know that he possesses such competence, it is wrong to grant him a certificate that can be readily displayed on the wall of his office to mislead his patients. Therefore, no diploma-like certificate should be granted to anyone who is not known to be proficient in that field, nor to anyone, under any circumstances, who has not completed at least one academic year in full-time study of a single special subject in the institution granting the certificate. For lesser degrees of proficiency and shorter periods of study, the most that should be granted in the way of a certificate should be a statement in letter form or, better still, on a card that does not contain all the essential data on one side.

These principles should apply also to certificates from hospitals for internships in special fields in which the special field is named. They should not necessarily apply to certificates from hospitals for general internships or resident service in which no special field is named.

PRINCIPLES REGARDING GRADUATE OR POSTGRADUATE MEDICAL SCHOOLS, SCHOOLS OF LABORATORY TECHNIC, AND OTHER INSTITUTIONS PROFESSING TO FURNISH COURSES OF INSTRUCTION FOR GRADUATES IN MEDICINE

The following principles are recommended as a basis for the grading of graduate medical schools by the council.

1. Admission Requirements.—The minimum admission requirement for those wishing to prepare themselves for the practice of a specialty should be graduation from an acceptable (Class A) medical college and completion of at least one year's internship in an approved hospital. In the case of reputable physicians who desire to improve themselves for general practice, lenient admission requirements are justified. Courses for general practitioners should be open to all physicians who have received the degree of Bachelor or Doctor of Medicine from medical colleges considered acceptable by this council, or to reputable physicians who were licensed in certain states before graduation was required.

2. Records.—Records are just as essential in a graduate as in an undergraduate school. Graduate physicians, indeed, will vary more in their preliminary and professional qualifications than the present-day undergraduates, and a knowledge of these qualifications is essential to decide the character and grade of the work to which the graduate student should be assigned. Again, a knowledge of his proficiency in the work to which he is assigned is essential to know whether he is worthy of advancement, or whether he can be trusted with responsibility for the diagnosis and treatment of patients who may be assigned to his care.

Records should be kept by each institution, therefore, showing (a) the preliminary and professional entrance qualifications of every student, which should be verified by authentic or documentary evidence; (b) previous attendance at graduate courses and grades obtained; (c) the subjects for which he is his work; (e) evidence of the student's proficiency enrolled; (d) evidence of his faithful attendance at as demonstrated by his routine or research work, examinations or otherwise, and (f) whether an advanced degree or certificate was granted.

3. Supervision.—There should be careful and intelligent supervision of the entire school by a dean or other executive officer who holds, and has sufficient authority to carry out, fair ideas as determined by the present day needs of graduate medical education.

4. Curriculum and Grading of Instruction Offered.—The graduate school should have its various courses of instruction so graded that the student, if he desires, can obtain progressive work in a continuous course of two or three years, as may be necessary to prepare him satisfactorily for the practice of a chosen specialty. It is found that at some previous time the student has satisfactorily completed certain portions of the work, he might be given advanced standing and thereby enabled to complete his preparation in a shorter time.

Where short courses are offered in any of the clinical specialties, these also should be so graded that in effect, they would be segments of and, in total, the time and educational equivalent of the longer courses. These segments might be taken at different times, but would ultimately lead the student to the same objective. With the exception of the courses in general medicine, all short courses should fit in with a scheme, the ultimate aim of which would be a complete and satisfactory training in the specialty for which the graduate school provides instruction. Any institution offering work in any specialty, therefore, should provide (a) review courses in anatomy, pathology and the other basic preclinical sciences which apply to the respective specialties; (b) clinics in which students can have the opportunity personally to examine patients in hospital wards and outpatient departments and in which various therapeutic and operative procedures can be demonstrated; (c) courses of operative and laboratory technic; and (d)—to be assigned only when the student's previous training will warrant—assistantships in which, under the supervision of a physician already having recognized skill in the particular specialty, he can gradually assume responsibility in the diagnosis and therapeutic or operative treatment of the sick. Opportunity should be provided also for research work in the chosen specialty bearing on both the fundamental sciences and clinical fields. With courses so graded, no student should be admitted to any advanced short course unless, on careful investigation, he is found to possess the knowledge and skill, such as are obtainable in the other prerequisite courses.

5. Teachers.—In some institutions it was found that courses of instruction were being given by those not qualified either by training or by teaching experience in the subject or subjects to which they were assigned. The general practitioner who can spend only a short period in acquainting himself with the newer things in diagnosis and treatment should receive his instruction from the very best men available. Certainly, their instruction should not be left to recent graduates of inferior schools or others who have not been able to obtain teaching recognition in acceptable medical schools.

The graduate medical school, therefore, should be supplied with a corps of teachers well trained in and responsible for the work in all subjects in which opportunities for study are announced. This should include teachers for essential review or advanced work in the preclinical sciences, as well as those who have in charge work in clinical subjects. The teaching staff should be made up of graduates of or teachers in Class A medical colleges or other high grade educational institutions. The faculty should be organized under the various teaching departments in which work is offered, and a competent teacher should be at the head of each department.

6. Laboratories.—The school should possess well-equipped laboratories to provide proper review or advanced work in both laboratory and clinical subjects essential for the specialty or specialties in which opportunities are offered. There should also be an adequate supply of special apparatus, such as

stereopticons, balopticons, photomicrographic outfits and roentgen-ray equipment.

7. Library and Museum Facilities.—All graduate work in medicine demands intensive reading in the field studied. Library facilities in most of the graduate schools are either totally lacking or woefully inadequate. In some instances, however, this lack is provided for by good medical libraries attached to other nearby institutions. The graduate school, therefore, should have a medical library which should include an ample supply of modern text and reference books, files of bound medical periodicals, and the essential indexes. It should also receive regularly thirty or more standard medical periodicals, the latest numbers of which should be on tables or in racks where they are easily accessible to the graduate students.

The school should be supplied with adequate museum facilities, including anatomic and pathologic specimens.

8. Hospitals and Dispensaries.—Graduate courses in clinical subjects cannot be presented profitably in lectures only. There are objections to allowing short term graduate medical students to assume responsibility for the diagnosis and treatment of patients; nevertheless, ample clinical material must be available for demonstrations for short course students and for the personal use of properly qualified students in the longer term. The graduate medical school, therefore, should have a teaching hospital with a daily average of 200 or more patients, and an outpatient clinic with an average of 100 or more patients each day; or, if teaching is limited to a single specialty, a hospital of not less than twenty-five patients daily and an outpatient clinic of at least 50 patients daily. In brief, it should have sufficient clinical material to enable it to provide satisfactory clinical study in the specialty or specialties for which opportunities are offered. In connection with the courses for general practitioners, ample clinical materials should be available so that the student may be given the opportunity personally to examine patients in hospital wards and in the outpatient department, and to make the essential laboratory examinations.

9. Annual Announcements.—The graduate school should publish annually announcements, bulletins or catalogues giving detailed information in regard to its teachers, laboratories, dispensaries and hospitals; outlines of the various opportunities for study offered in both fundamental and clinical branches; a complete list of the students enrolled during the last preceding year, showing their medical schools and years of graduation and the subjects for which they registered, and a list of those to whom advanced degrees or diploma-like certificates were granted.

10. Advanced Degrees, Diplomas, Certificates.—No advanced degree or diploma-like certificate should be granted to any one who is not known to be proficient in the specialty pursued; nor to any one, under any circumstances, who has not completed at least one academic year in full-time study of a single special subject in the institution granting the certificate; and unless scholarship records of the student show that, throughout the period, he has faithfully attended to his work, and unless reasonable tests show that he has diligently and satisfactorily completed the work for which he was registered.

SUMMARY

The following points in the Council's complete report are of particular interest:

MEDICAL EDUCATION

1. Greatly enlarged or entirely new teaching plants have been completed during the last fifteen

years in eleven medical schools and are now under construction or planned for the immediate future in eleven others.

2. The total number of medical students has increased since 1919 at the average rate of 1,162 each year.

3. During the next three years indications are that the numbers of medical graduates will be increased by about 900 each year, reaching 4,500 in 1925.

4. The adoption of higher entrance requirements in medical schools has advanced the average age of students graduating by only three tenths of a year. The average age in 1922 was 26.8, as compared with 26.5 in 1916.

5. In order to establish a better correlation between laboratory and clinical teaching in medical schools, two definite measures are being adopted: (a) Making the curriculum more flexible by omitting detailed requirements, and (b) by erecting new plants whereby hospital and college will be in one building, where laboratories and hospital wards will be in immediate contact.

PROBLEMS OF MEDICAL PRACTICE

The rapid expansion of medical knowledge has brought with it several problems in medical education and practice, including:

1. The Modern Training of General Practitioners.—The training of general practitioners is a matter of special importance, since they should always constitute the great majority of physicians and will be called on to care for patients representing all varieties of diseases and injuries. This is a problem for further study by the council in the early future.

2. The Training of the Specialist.—Part 5 of this report deals in full with this subject.

3. The relationship of the general practitioner to the specialist and the proportion of each type that is needed.—Reliable estimates are that from 80 to 90 per cent of all cases of illness can be properly cared for by well qualified and resourceful general practitioners. While there is a legitimate and important field for properly trained specialists, therefore, the need of them should not be overemphasized. The trouble at the present time is that many physicians are posing as specialists without having first obtained the essential training.

4. The Proportion of Patients that Require Hospitalization.—A reliable estimate states that over 90 per cent of all patients can be cared for efficiently in their homes or in the physicians' offices without the need of the hospital.

5. The Development and Function of Group Practice.—There are at present 270 groups listed with a total staff membership of approximately 2,430 physicians. These groups are divided into (a) the closed hospital group, very few; (b) the one man group, most numerous; (c) the diagnostic group; (d) the co-operative group. (See Part 3 of this report.)

6. The measures by which the benefits of modern medical knowledge and practice can be furnished to the entire public, including the supplying of physicians to rural communities. The best solution at present appears to be for citizens of a community to guarantee a physician an income of \$2,500 or more each year for a term of five years. By this measure, it is believed that any community having a sufficient population to support a physician can secure one.

HOSPITALS AND DISPENSARIES

In 1921 there were 6,236 hospitals, sanitariums and homes listed. In the two years since that time about 512 "homes" which did not have hospital departments have been eliminated and the names of

about 846 other hospitals have been added, making a total of 6,570 at the present time.

Of the hospitals for intern training, the required number of beds in those eligible for approval has been increased to 100; nevertheless the number of those approved for intern training has been increased from 627 to 654 and provision is made for 3,671 interns.

There are listed 3,294 dispensaries and clinics (excluding group practice) which provide care each year for approximately 8,000,000 patients who during the year make approximately 29,500,000 visits to the dispensaries. An increasing check is being kept regarding the financial status of the patients so that the abuse of medical charity in dispensaries is being held down to a reasonable minimum.

NURSES TRAINING

The suggestion regarding nurse education in the address of the speaker to the house of delegates, May 22, 1922, was referred to the Council on Medical Education and Hospitals. In accordance with the instructions of the house, a special committee was appointed to make a preliminary investigation of the problems of nurse education and to recommend what should be done.

The committee's report shows that the defects in the training schools of today are:

1. The course, on the whole, is unsystematized, unstandardized, and far from uniform.

2. There is too little systematic instruction in practical work and too much theory and certainly a lack of correlation between the two elements.

3. Too many of the teachers are poorly qualified.

4. There is too much of the pupil nurses' time wasted in uneducational routine work.

5. Many schools are connected with hospitals having utterly inadequate facilities.

RECOMMENDATIONS

The committee recommended:

1. That a committee be appointed made up of (a) physicians who are competent clinical teachers; (b) representative nurses, and (c) at least one educator who is neither a physician nor a nurse; that this committee be arranged for by the American Medical Association in conjunction with the National League of Nursing Education, each having equal representation and appointing its own representatives, and that the educator be selected by the other members of the committee when appointed.

2. That this joint committee prepare a standard minimum curriculum for the training of nurses; and

3. That it prepare a classification of nurse training schools in which only those which conform to the standard outlined be considered as acceptable.

THE COUNCIL'S RECOMMENDATIONS

After careful consideration, the council makes the following recommendations:

(1) That the three following named individuals be selected to represent the American Medical Association in dealing with the problems of nurse education and service in co-operation with a similar committee appointed by the National League of Nursing Education:

Chairman, Dr. William Darrach, dean of the Columbia University College of Physicians and Surgeons, New York.

Dr. Winford H. Smith, superintendent of the Johns Hopkins hospital, Baltimore.

Dr. Thomas McCrae, professor of medicine, Jefferson Medical College, Philadelphia.

(2) That in order to bring about the proper correlation of the work with the existing educational and hospital policies, it is recommended that the secretary of the Council on Medical Education and

Hospitals be the secretary of the committee of three, without voting power.

GRADUATE MEDICAL EDUCATION

During the last year an inspection of all graduate medical schools in the United States has been completed by the secretary of the council and Dr. Louis B. Wilson of the Mayo Foundation.

From the data obtained in this investigation, a series of principles has been prepared as a basis for a proposed classification of the various graduate medical schools.

CLASSIFICATION OF GRADUATE MEDICAL SCHOOLS

Based on the foregoing principles, the following classification of graduate medical schools is recommended:

Class A.—Those which have adequate equipment, which are furnishing acceptable and complete graduate courses of instruction in one or more specialties and which grant advanced degrees or diploma-like certificates only to students who are properly qualified.

Class B.—Those which (a) are seriously deficient in certain respects, or (b) which have ample equipment and offer acceptable courses, but which grant advanced degrees or diploma-like certificates to students who are not properly qualified.

Class C.—Those which (a) do not have adequate equipment or teaching facilities, or (b) are not properly organized, or (c) do not adhere to the prescribed educational standards, or (d) offer courses in a specialty too brief or inferior to insure proper qualifications in the specialty, or (e) grant advanced degrees or diploma-like certificates to those not properly qualified.

Respectfully submitted.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

Arthur D. Bevan, Chairman.
Merritte W. Ireland.
Ray Lyman Wilbur.
Samuel W. Welch.
William Pepper.
N. P. Colwell, Secretary.

State News Notes

COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer. 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

\$10,000 Practice (with minor surgery) for sale at Lake Orion, 35 miles from Detroit. 7-room modern home with offices attached and garage. \$8,500. Terms. Dr. A. M. Watson, Detroit, Mich., 8786 Linwood.

WANTED—Assistant surgeon, full time service.

Must be a single man. Write for details to H. A. Grube, chief surgeon, Michigan Soldiers' Home, Grand Rapids, Mich.

Dr. and Mrs. Max Ballin of Detroit sailed early in July to spend the summer in Europe.

Dr. and Mrs. Duncan Campbell of Detroit spent the month of August on Cape Cod.

Dr. and Mrs. E. W. Haass of Detroit are spending the summer in Europe.

Dr. R. J. Hutchinson, Grand Rapids, is at his camp in Northern Canada, returning September 1st.

The Upper Peninsula Medical Society held its annual meeting August 22 and 23, at Iron Mountain.

Dr. T. D. Gordon, Grand Rapids, departed for Europe, July 15, for six months' study.

Born to Dr. and Mrs. B. C. Corbus of Grand Rapids, the latter part of June, a daughter, Harriette Jane.

Dr. Max Ballin of Detroit spoke on "Spinal Cord Tumors" before the Academy of Medicine of Toledo, May 25, 1923.

The Seventh Annual Scientific Session of the Association for the Study of Internal Secretions was held in San Francisco, June 25, 1923.

Dr. V. C. Vaughan gave an address on "The Future of Medicine" before the Milwaukee Academy of Medicine, June 12, 1923.

Dr. William LeFevre, son of Dr. and Mrs. George LeFevre of Muskegon, is taking his interne year in the Memorial Hospital, Philadelphia.

Governor Small has signed the bill appropriating \$403,000 to establish a medical research laboratory at the University of Illinois.

Dr. Guy L. Kiefer of Detroit joined Mrs. Kiefer at their summer home at Mackinaw Point, August 1, 1923. The Doctor will be away one month.

Dr. B. D. Harrison left Detroit August 1, 1923, to join his wife and daughter at their summer cottage on Steere Island, Sault Ste. Marie.

Dr. Harry N. Torrey of Detroit with three other men sailed July 28, 1923 for Africa for five months of exploring and hunting big game.

Dr. C. T. Southworth's son is taking his interne-ship in the Northern Pacific R. R. Hospital in Tacoma, Washington.

Miss Ruth MacLachlan, daughter of Dr. and Mrs. Daniel MacLachlan of Detroit, was married June 29, 1923, to Mr. Lee Richardson of Alpena.

Dr. G. W. Stockwell of Detroit sailed for Europe the later part of June. He will return the first part of September.

Mr. John D. Rockefeller, Jr., recently gave the University of Michigan \$10,000 to cover the cost of treating diabetic persons with insulin.

Miss Dorothy Yates, daughter of Dr. and Mrs. H. W. Yates of Detroit was married, June 26, 1923, to Mr. Sidney B. Coate of Grand Rapids.

Dr. and Mrs. L. J. Hirschman left Detroit the early part of June for a three months trip through Europe.

Dr. W. J. Seymour of Detroit has been appointed a member of the Welfare Commission. He succeeds Dr. Max Ballin (resigned).

The University of Michigan conferred the degree of Doctor of Science on Dr. George E. de Schweinitz of Philadelphia, June 18, 1923.

Dr. Clemens Pirquet, Professor of Pediatrics in the University of Vienna, Austria, has been ap-

pointed Professor of Pediatrics at the University of Minnesota.

On June 21, 1923 Dr. William W. Keen of Philadelphia completed 50 years as a member of the Board of Trustees of Brown University, Providence, R. I.

Dr. R. E. Mercer has resigned as Professor of Physical Diagnosis in the Detroit College of Medicine. He has been spending his winters in the west.

Dr. George W. Crile of Cleveland was elected President of the American Surgical Association at the annual meeting, held in Rochester, Minn., May 31-June 2, 1923.

Dr. W. T. Dodge of Big Rapids attended the American Medical meeting in San Francisco and spent a month visiting and touring the western states and national parks.

Dr. and Mrs. Joseph E. G. Waddington of Detroit will sail August 25th to spend three months in Central Europe. While abroad, the doctor will attend clinics in Copenhagen, Berlin, Vienna, Leyden and London.

Dr. Charles D. Aaron of Detroit read a paper on "The Futility of Surgical Intervention in the Treatment of Gastro-Enteroptosis" before the American Therapeutic Society, in San Francisco, June 23, 1923.

Dr. W. P. Manton has resigned as Professor of Obstetrics in the Detroit College of Medicine. The Doctor has bought a home in California. Dr. Manton has been appointed Emeritus Professor of Obstetrics in the college.

Dr. R. C. Jamieson has been appointed Professor of Dermatology in the Detroit College of Medicine succeeding Dr. H. R. Varney (resigned). Dr. Varney has been appointed Emeritus Professor of Dermatology.

At the 79th Annual Meeting of the American Psychiatric Association, held in Detroit, June, 1923, the following officers were elected: President, Dr. T. W. Salmon of Larchmont, N. Y.; Vice-President, Dr. W. A. White of Washington, D. C.; Sec'y Treas., Dr. C. F. Haviland of Albany, N. Y.

A tract of 44 acres of land in Minneapolis (valued at \$100,000) and an endowment fund of \$900,000 have been given to the University of Minnesota for the construction and endowment of a hospital and convalescent home for crippled children.

At the Ann Arbor examination, held June 5-7, 1923, by the Michigan State Board of Registration in Medicine, 177 persons took the primary examination and 131 the final. At the Detroit examination, held June 11-13, 1923, 74 took the primary, 51 the final examinations, 8 took the drugless and 3 the chiropody examinations.

Dr. H. K. Shawan has recently been appointed Professor and Head of the Department of Surgery in the Detroit College of Medicine. He takes the place of Dr. Angus McLean who resigned to become a member of the Detroit Board of Education. Dr. McLean has been appointed Emeritus Professor of Surgery.

A bequest of \$5,000 to Dr. Don M. Campbell of Detroit for the study and treatment of eye, ear,

nose and throat diseases was announced June 14, 1923, following the filling for probate of the will of Mrs. Ellen M. Chipman. This study can be made in any hospital that Dr. Campbell may designate.

According to reports, Joseph Synowski, infant plaintiff in the \$50,000 damage suit against James and Margaret Connell, chiropractors in Jackson, for alleged malpractice, was awarded, May 25, 1923, judgment for \$7,000 in the circuit court.

Dr. Harold L. Morris of Detroit read a paper June 27 before the Urological Section of the American Medical Association at San Francisco, entitled, "A Study of the Chemical Solvents Used in Dissolving Foreign Bodies in the Urinary Bladder, Such as Paraffin, Beeswax, Gum and Urethral Pencils."

Dr. A. R. Moon has recently moved from Detroit to 117 South Webster street, Saginaw, where he expects to continue the practice of obstetrics and gynecology. Dr. Moon has resigned from the positions which he formerly held in Detroit as junior obstetrician, Harper hospital, and as president of the medical staff, Florence Crittenton home.

The National Board of Medical Examiners changed (November, 1922) the title of those who hold its certificates from licentiate to diplomate. This certificate of the National Board is, strictly speaking, just such a credential. It is in no sense a license to practice medicine. Boards of 24 states have given their approval and recognition to the National Board's certificate. The rest of the states, to date, have not.

Haslett, a village of about 300 people, ten miles north of Lansing, and college, is without a physician. It is well located on main line of Grand Trunk railroad and interurban railroad (M. U. R.) They asked me to write you to send them a physician if you had any enquiries. Further information can be had from Henry Behrendt, former marshal of Eastern Michigan District, who lives at Haslett. Sincerely, A. M. Campbell.

County Society News

HOUGHTON COUNTY

The Editor of the Journal of the Michigan State Medical Society:

The regular meeting of the Houghton County Medical Society was held at the Lake Linden hospital, June 4, 1923.

Dr. P. D. Bourland presented a paper on "Encephalitis," and dwelt upon its diagnosis in the milder form, especially the cell count and sugar content of the spinal fluid; also as an etiological factor in a later Parkinson's disease.

Dr. H. A. Mauthei presented several cases of Parkinson's disease, multiple sclerosis, and primary lateral sclerosis, and also dwelt on their early diagnosis.

There are at present in Lake Linden and vicinity some seven cases of Parkinson's disease.

We had a very interesting discussion among the 20 physicians present and a delicious luncheon was served by the nurses of the hospital.

Dr. John Moore will entertain the Medical Society in July at his bungalow on Portage Lake.

The staff of the Memorial hospital in Laurium will give the Society a clinic in August.

Very truly yours,

Charles E. Rowe, Secretary.

LAPEER COUNTY

The Editor of the Journal of the Michigan State Medical Society:

At the meeting of the Lapeer County Medical Society, held June 19, 1923, the following resolution was adopted.

Resolved, That it be the desire of the Lapeer County Medical Society that Dr. S. A. Snow of North Branch, Mich., become an honorary member of the State Medical Society; and further

Resolved, That the Secretary transmit a copy of this resolution to the councillor of this district.

Fraternally,

D. W. Crankshaw, Secretary.

WAYNE COUNTY

REPORT OF PUBLIC HEALTH COMMITTEE

The work of the Public Health Committee of our Society during this year has been along four lines:

1. (a) To act as an intermediary between our Medical Society and the Detroit Department of Health in matters of policy; (b) as an agency to harmonize the activities of each especially in relation to venereal diseases; (c) as a line of communication for furthering co-operation between the Medical Society and the Department of Health in connection with preventive medicine in other than venereal diseases.

2. The Public Health Committee has undertaken the investigation of certain reported practices in clinics and hospitals which were understood by the complainants to restrict the working field of private practitioners, namely, the performance of an amount of free and charity work out of proportion to the number of destitute or indigent people to be found in our community and entirely beyond its needs.

3. The Public Health Committee has engaged in the development of a Health Exposition to be held this year under the auspices of the Wayne County Medical Society.

4. Miscellaneous activities, including (a) a meeting with officials and representatives of the Michigan Chiropodist Association; (b) an attempt to keep posted at the Wayne County Medical Society Building such information concerning current operation, conference, and clinical meeting schedules of the various local hospitals, (c) and such matters as furnishing to the United States Public Health Service our opinions on the incidence of venereal diseases, etc.

The operations of this Committee in connection with the above outline will be considered seriatim.

WAYNE COUNTY MEDICAL SOCIETY AND DETROIT DEPARTMENT OF HEALTH

1. During the present year, as in previous years, there have been received by this Committee a number of communications from members of our Society detailing incidents that were interpreted as acts of unprofessional conduct on the part of Department of Health employees; others which indicated that some employees of the same department had belittled the work of the private practitioner and had jeopardized the patient's and his family's respect for the attending physician. However, judging from the small number of such complaints received, it appears that the Department of Health nurses have exercised greater caution in their relations with the public and our profession. We are informed and believe that each of such complaining communications receives the proper investigation

to the end that such occurrences shall be prevented. The rules of the department are very exacting in this respect, and your committee feels that the officials do not tolerate indiscretions as are reported from time to time.

"To err is human," and, knowing the facility with which even our own members may cause offense by being over-zealous in their duties, it is understandable how the Department of Health employees may occasionally arouse the ire of the physician and the public. In order that such incidents may be reduced to the lowest possible limit, it is advised by this Committee that physicians enter complaint only with complete details concerning the nature of the case, date, name and address of patient, name of employe, and pertinent facts.

Any member of this Society who believes the facts warrant an objection on his part should manifest sufficient interest in his own affairs and in the welfare of the other members of this Society to provide full details without putting such burden upon members of a committee. With the facts at hand these matters can and will be adjusted. It is again urged that trespassing upon our rights can best be controlled by the active interest of each of our members, immediate investigation, and full and detailed report to this committee. At no time has the Health Department indicated an unwillingness to co-operate with us toward the abolishing of this evil.

2. That the activities of the Wayne County Medical Society and the Department of Health may be harmonized and to co-operate directly with the department in the conduct of its venereal disease clinic, the following subcommittee was appointed by your chairman on the invitation of the Commissioner, Dr. Henry F. Vaughan: Dr. Wm. E. Keane, chairman, and Dr. Robert Rosen, secretary. The secretary's report follows:

January 17, 1923.

Dr. R. A. C. Wollenberg Chairman,
Public Health Committee,
Detroit, Michigan.

In accordance with your request we have visited the venereal clinic of the Board of Health, and present to you the following report:

The clinic has moved and is now located on the third floor of the City Service Building on Clinton street. We beg to report that the social service investigator, whose duty it is to check up as far as possible the statements of the individual cases as regards the economic and financial condition, is all that we could expect from one individual. He should be given more power and help. In going over the records with him we find that from February 13, 1922, to January 13, 1923, Mr. Snook interviewed 4,581 cases as to their economic and financial condition. Of these 1,128 were married; 3,078 were single; 103 widowed; 272 divorced; 2,710 were employed; 1,871 were unemployed; 3,466 were white, 1,115 were colored. Of these 1,886 were treated for syphilis, 2,791 were treated for gonorrhea, 78 miscellaneous, 13 referred to clinics, and 951 referred to physicians. These 951 were in a position to pay a private doctor for medical attention. Admitted to the clinic for treatment were 3,617.

It seemed to us that there should be a department for men similar to the one conducted for delinquent women, where men who refuse to take treatment from a private physician should be enforced to remain there by the police and treated. Only in this way would these social pests and menace to society be taken care of. It seems to us only fair to treat both sexes alike in this respect.

We state again that we feel that every effort is

being made to determine whether an infected individual is able to pay a private physician, and, where this is possible, treatment is denied at the clinic. If police enforcement were possible as suggested herein, these men would take treatment more readily.

We would recommend that Mr. Snook be allowed this police power and additional social service help. In this way this problem could be handled more efficiently.

(Signed)

Robert Rosen.

It is concluded from the above report that the Department of Health restrictions placed about female delinquents affected with venereal disease meet with the approval of this subcommittee, but that our community is not sufficiently protected against males in the same station and similarly diseased; also, that the social service work in the venereal disease clinic is found to be inadequate.

In connection with venereal disease, this committee cannot ignore the fact that instances of gouging and unfair dealing on the part of members of our profession have been discovered. To charge a workingman from \$25.00 to \$50.00 for 1 salvarsan injection and to capitalize the fear of a young unfortunate have been known to blast his hopes, to ruin his finances, and to lessen his prospects of recovery of both health and morals.

We urge physicians to plan carefully the treatment of their luetic patients. Early and satisfactory treatment should not be so burdensome financially that patients will be unable to complete the courses. Early and continuous treatment should be provided in order to prevent infection of others and that tertiary symptoms may not develop in later life to cause further public burdens.

3. This committee studied with the Department of Health a number of problems of mutual interest.

On account of the existence of a state law, Public Acts 274, 1919, which prohibits compulsory physical examination or compulsory treatment of school children, it is found that the use of such disease preventatives as vaccination and diphtheria toxin-antitoxin cannot be actually enforced, and their broad use depends largely upon the attitude of the public. Members of the medical profession by their daily and direct contact with the public should exert a constant educational influence.

The world is full of opportunity and work for the physician who is active and alive to his medical obligations, and there is no one else to blame for any opprobrium that attaches itself to the high incidence of these two diseases in particular, not to forget that typhoid fever is now practically preventable by prophylactic vaccine injections. In connection with these and other diseases, the following resolutions have been adopted:

A. "In view of the prevalence of deaths from diphtheria in this city in the age group of 6 years and under, it is urged that physicians make use of prophylactic measures, namely, toxin-antitoxin in the immunization of young children of 1 years old and above who are in their clientele."

B. "On account of the greater efficiency of the early administration of diphtheria antitoxin, physicians are urged to treat all clinical cases of diphtheria with antitoxin without waiting for corroborative laboratory evidence. USE ANTITOXIN EARLY."

C. "In view of the comparatively rare occurrence of cases of smallpox in the practice of physicians, it is urged that whenever a physician may be in doubt regarding the diagnosis, the patient be placed in isolation and a consultant be employed if finances permit; or, if not, that the consulting service of the Department of Health be sought in con-

nection therewith. If this practice is carried out it is believed that extensive exposures to mild cases of smallpox will be avoided."

D. "Typhoid fever is now a comparatively rare disease. Whenever a physician sees a patient who may have typhoid fever or para-typhoid fever, the physician is urged to make use of laboratory procedures which will assist in making a correct diagnosis. If the patient is within the first week of the disease a blood culture will be of assistance, and after the ninth day of Widal test may be useful; repeat if the clinical symptoms demand. Of course, blood counts and differential examination of white cells may be useful. For a patient who is unable to pay for this examination the service of the public health laboratory is at your disposal. Care in the matter of diagnosis will not only be of service to the patient, but will be useful to the local health authorities in detecting the onset of an outbreak of typhoid fever and in some instances may remove from a community the stigma which may be imposed through carelessness in this regard."

E. "In the examination and in the care of cases of tuberculosis, physicians are urged to instruct the patient in the proper disposal of tuberculous discharges, and the association of young children with open cases of tuberculosis should be avoided as much as possible. Again, physical examinations of all contracts should be made for incipient tuberculosis. Minute instructions as to rest and food should be given the patient. Patients who cannot pay for examination of sputum should have the material sent to the Department of Health laboratories. Culture stations are equipped with sputum outfits. Where X-ray examination is required, if the patient cannot pay for such service, the physician may take the patient to the Department of Health for such examination. A patient who cannot afford a physician may be referred to the Department of Health tuberculosis clinics."

F. "PROMPT reporting of all cases of communicable diseases to the local health department is urged upon physicians. It is a requirement of the law, a service to the public, and a courtesy to other members of the medical profession."

G. "On account of the fact that the transportation facilities in Michigan are so easy, circulation of the people over wide areas is very extensive, and it would appear that uniform health regulations throughout the state would be of general public interest and demand. Since it would be a proper function of the State Department of Health it is the belief of this committee that an adequate organization should be formed and be under the general supervision of the State Health Department, whose object it would be to co-ordinate the health regulations of various localities, and this recommendation is referred to the legislative committee of this Society for its consideration."

H. "The Visiting Nurses' Association is commended for the nursing service which they make available to the community, and it is urged that its service be extended to include, where necessary, the care of patients affected with communicable diseases."

CHARITY WORK IN DETROIT HOSPITALS AND DETROIT DEPARTMENT OF HEALTH

Your Public Health Committee has engaged in the investigation of certain reported practices in Detroit hospitals and the clinics of the Department of Health which appear to restrict the working field of the private practitioner. Letters received and opinions expressed in interviews by some of our Society members indicate that some clinics are doing an unwarranted amount of free work, or work for a very nominal fee, on patients who are fully

able to pay reasonable fees; that clinics have wilfully permitted their abuse by calloused and habitual visitors whose motto may be, "Why pay when you can get something for nothing." The question has arisen whether such hospitals are placidly furthering and promoting a contempt which some patients of means may have for the man in private practice and are permitting the latter to be euchered out of many patients who have no right whatsoever to be recipients of charity from our profession.

To be permitted through charity to relieve the suffering of the poor is one of our greatest privileges. Many of us shall advance no other plea at St. Peter's gates than that we have healed and given succor to the poor and unfortunate. However, it is quite another matter to have our profession exploited.

There are about 35 hospitals in the city of Detroit. To each of these your chairman addressed a letter of which the following are two paragraphs:

"A number of members of the Wayne County Medical Society have been impressed with the large amount of free work that is being done at the various hospital clinics, having in mind especially the large number of tonsil operations and venereal cases. It is the belief that a certain portion of these cases are in patients who could well afford to pay a physician in private practice a fair charge for such work. This matter has been very thoroughly discussed from various angles by members of the Public Health Committee, and by vote of its members a committee was appointed to investigate the situation as one of interest to the entire Society."

"The committee consists of Dr. J. E. Bernstein and Dr. Chester A. Doty. We ask your kind co-operation, assistance and permission for this committee to call upon you to get such information as will assist us in forming conclusions in regard to the situation in question."

To these letters, which were repeated after two weeks, but four replied: Grace hospital, Receiving hospital, Herman Kiefer hospital, and the Henry Ford hospital.

Dr. W. L. Babcock of Grace hospital offered his records to the committee. Dr. T. K. Gruber of the Receiving hospital stated in part as follows: "Will say that we will be very glad to co-operate. It has always been my contention that the medical organization in every city has been remiss in its duties. A large number of members stand around and do a lot of talking about charity work that is being done, but they never do anything more about it. The whole proposition could very easily be brought to a head and taken care of very satisfactorily if an organization like the Wayne County Medical Society would get behind it. All the facilities of this institution are at the service of your committee to make whatever investigation is within reason."

No charity work such as we have in mind was stated to be done at either of the other two institutions.

Your committee feels that some members of this Society representing the other 30 odd hospitals had shown this committee and the Society no consideration or courtesy whatsoever. The reason? Either inertia or that it was considered to be none of your business. However, the members of the subcommittee each submitted a report for which each is individually responsible and which each is prepared to discuss.

Dr. E. J. Bernstein's report:

THE DISPENSARY ABUSE IN DETROIT

Up to five years ago Detroit was a favored city in that it had no concern in the question of dispensary abuse. It, however, began to manifest itself

during the war when many heads of families were drafted into the army. Since the marked depression incident to the days of so-called readjustment, notably since the fall of 1920, when everyone felt the pinch of hard times, when those hitherto in comfortable circumstances, to say nothing of the thousands of workmen who were out of employment, either totally or partially, felt the pinch of poverty and were forced to accept aid, not alone in times of illness, but even to get food and raiment to put on, this dispensary abuse has grown by leaps and bounds and is not only pauperizing a self-respecting public, but it threatens to engulf the medical profession. The only exceptions to this calamitous state of affairs in the profession are those doctors whose practice is among the well-to-do or those people who are too self-respecting to accept charity. Added to this evil in our midst, is the old problem of the evil done to the profession by the university clinics at Ann Arbor, plus the inroads of the public health boards and the dread of state medicine.

Those of us who have practiced medicine for a score or more years, and especially those who started their careers in the large cities of the east, know of the starving remuneration of the first 10 or 15 years of practice, when \$200.00 was all a young doctor might expect to earn in the first year. If at the end of 10 years he had a \$1,500 practice, he was quite satisfied. We are rapidly returning to that state, unless the profession of the city looks after its own salvation as thoroughly as the health board officers and hospital authorities take care of themselves. That this is not a figment of an excited imagination, one need only visit the clinics of the city, and, certainly if one will go to any of the large clinics in Chicago, New York, Philadelphia, Boston or Baltimore, he will find the reason for the many papers on dispensary abuse which have from time to time appeared in the medical literature.

There is no profession or body of men so willing to work for the public good, without pay, so lacking in self-interest, as the doctor's. We are the easy mark of every well-intentioned but often misguided reformer or uplifter who invades, unopposed, the practice of medicine and surgery until the time has arrived for raising the danger signal. Now what are the facts that confront us here? The Welfare Bureau of this city says the minimum wage on which a family of father, mother and three dependent children can exist is 12 times \$142.00, or \$1,704.00 a year and put aside \$10.00 a month for illness and unlooked for contingencies. From the board of commerce I learn that the average wage of the industrial worker here is \$5.30 per day, or \$1,537.00 per year (290 days making the maximum number of working days per year).

(These wage figures are considered high by the Federation of Labor).

In Detroit proper, the wage is.....\$4.89
In Hamtramck the wage is..... 5.14
In Highland Park the wage is..... 5.91

This schedule is made as follows:

88,773 skilled laborers at.....	\$6.36
6,535 foremen at	7.40
1,251 superintendents at	10.48
2,563 salesmen at	8.21
78,819 unskilled workers at.....	4.89
52 women superintendents at....	4.59
514 forewomen at	4.07
28,563 women over 16 at.....	3.05

These figures represent the allied industries affiliated with the board of commerce, and their statistician says that 50 per cent more workers is about the total so employed in and about Detroit. The number so engaged has gradually increased from

65,000 employed in the fall and summer of 1921 to 250,000 on the daily payroll from April 1st to November 8th, 1922.

This does not account for the men in the building trades, or other trades, and the small storekeeper. This means that this great army of workers is being underpaid by the manufacturers, and in sickness the doctor is expected to supply the deficiency of pay by donating his services gratis. The board of health feels that any single man making less than \$90.00 a month, or any married man with less than \$125.00 a month, is a proper subject for medical charity. If this were half way looked after, there would be no cause for questions, and the attendance of the clinics would not assume such vast proportions as they do. There is a certain amount of investigation, which, taking the statements of the hospital superintendent and Board of Health at par, is sufficiently done. We know, however, that the vast majority are taken without the faintest pretense of weeding out the unworthy. Take the matter of free tonsil work done. One of the hospitals in the city has been doing from 10 to 20 a day for a year or so, during that time, the number of paid cases ranged from one to four. The Receiving hospital claims that it does but 25 free tonsillectomies a month. Harper claims it does three or four a day, but attempts to find out how many they care for at from \$3.50 to \$15.00 have failed, though I have been to see the various persons in charge.

The semi-free treatment of the public is possibly the greatest evil, for it establishes in the minds of certain types that \$15.00 is the maximum fee to pay for hospital care and operation. The hospitals lose nothing, for the superintendent of the Receiving hospital tells me that the city pays for the hospital care of all free cases.

One hospital does from 10 to 20 cases daily. Out of the total number of patients visiting the clinic for all care, 71 house investigations were made in one month, some cases were eliminated at the desk; about 50 cases paid small fees to the staff, ranging from \$2.50 to \$25.00. Altogether \$312.00 was thus paid to members of the dispensary staff.

It is very evident that the profession in Detroit is up against a very real thing. We are rapidly drifting into conditions present all over Europe and in the large cities of the east.

An increasing number of public hospitals and charitable institutions under governmental control and support, health centers, diagnostic clinics, diagnostic clinics, health insurances, compensation acts, and insurance hospitals where employers, for a nominal sum, can send their employees to be treated by a few underpaid doctors who handle a large number of patients daily at a cost of about 10 cents a patient, are threatening the livelihood of the doctor.

No one man can buck the management of the hospitals whose large buildings must be kept full. The greater activity in the way of large clinics and full beds they show, the more secure is the position of the head of these institutions.

There can be no such thing as free dispensaries and free clinics—they are bought and paid for by every member of the community and the doctor is doubly taxed; first, as a member of the community, and secondly, by competing with and destroying his means of livelihood. At the same time the community is being pauperized. Taxpayers have a right to protest against paying the medical bills of those financially able to pay their own expenses. It is making liars and cheats of people.

SOLUTION OF THE PROBLEM

The solution of this problem may be stated under

three heads:

1. There should be a social service ably trained to make real and thorough investigations and be competent to distinguish between the needy and those possessing the ability to pay.

2. There should be an awakening of the medical profession to the realization that it is equally responsible for this pauperization. There should be censorship of the services of the physician by some responsible body like the county medical society, as has been done in connection with contract practice, so that patients able to pay, should not be cared for gratuitously.

3. There should be education of the public to an understanding that if the standards of medicine are lowered through the loss of impetus and initiative in the young physician, the public will be the chief sufferer.

4. There should be formed here in Detroit an organization on the lines of that in Buffalo by the medical profession to look after our interests as to clinics, state, medical, etc.

(Signed) Edward J. Bernstein.
January 17, -923.

Dr. Chester A. Doty reports as follows:

PRELIMINARY REPORT

January 17, 1923.

Dr. R. C. Wollenberg,

Chairman of Wayne County Public Health Committee.

Dear Sir:—

I desire to submit a preliminary report covering partially the investigation in the branch of dermatology and syphilis in the various free clinics which care for the indigent poor, as follows:

Highland Park General Hospital—

The clinic is small at this hospital, and there is a very efficient social service worker, Miss Bell. This clinic is well investigated and contains few, if any, that are other than needy.

Receiving Hospital—

This clinic is very well handled. The heartiest co-operation was extended to our committee by Superintendent Dr. Gruber. In every way his work is to be recommended.

Grace Hospital—

At Grace hospital we were informed that in syphilis and venereal diseases the clinic was small, by the superintendent. We found that this clinic handles a fairly large number.

Board of Health—

This is the largest clinic in the city. Patients are all received upon entering, and after diagnosis they are referred. Upon this point I desire to call your attention. First, if a patient enters with an apparent primary lesion the dark field and Wassermann are given. If negative he is retained and Wassermanns given each week, also dark field. If they continue to be negative the lesion is treated with Cu So 4. Diagnosis is often not made in from 4 to 10 weeks. A considerable number of these patients are single, earning from \$4.50 to \$7.50 per day, many holding good positions. Should they be kept under observation for this time free of charge? *Why should they not be referred to a private physician for diagnosis?

The investigation is much in question. The patient comes in with his story; he is questioned and rejected or admitted, depending on the judgment of one man. No checking up of this is instituted except possibly in rare cases. The story of the patient is the basis of acceptance or rejection in most cases. The examination is preliminary requiring about 10 minutes on the average.

This report covers only a part of my work at this

time, the remainder of which will appear in the final report.

(Signed)

Chester A. Doty.

*Dr. F. Meader states: "The number of cases of this kind average about one per week. The patient cannot be made to get under treatment because the diagnosis of syphilis has not been made. The Health Department does this to protect the public."

Final report of Mr. Doty.

April 19, 1923.

Mr. Chairman:—

In my previous report a number of points were covered relative to the conditions in the clinics of the various hospitals. The so-called free clinics such as we were requested to investigate, do not exist. Practically all of the clinics, except the Receiving hospital, have certain set charges for calls and various operations. Many of the hospitals have a large crop of social workers, stenographers and nurses, in which cases it would seem the co-operation supposed to exist between the profession and the clinic is lost, due to the fact that expenses are high, and this necessarily requires a large clinic to assist in defraying the same. This refers to the pay clinics which receive part of their support from the Detroit Community Fund; consequently, it would seem that the main object in mind is to keep the clinic large, regardless of the patient's financial status.

Referring to the Board of Health, it has a large clinic. It gave last year over 11,000 salvarsans. The lack of investigation relative to their being indigent cases is the main point of criticism. One investigator is compelled to determine by means of verbal examination the financial status of each patient. This method is inadequate. As a result a plausible story is concocted, passed on by word of mouth from one to another patient, and is accepted provided the story is not found contradictory by the investigator.

If, in the opinion of the investigator, this patient seems able to pay a physician's fee, he is given the names of physicians, provided he has no choice of his own. There is no doubt but that many patients are receiving venereal treatments who would be able to pay a reasonable fee to the physician. In an investigation covering three days I found what appeared to me to be questionable cases to the number of about 75, all of which appeared to have enough money to be able to pay a physician for treatment. These should be carefully checked up. Their incomes and habits should be more carefully studied to determine finally whether they should be cared for at public expense or if they should be left to their own devices and be trusted to take treatment from a private physician.

The physician is also at fault to quite an extent in that he does not in these cases analyze the patient's financial condition and accepts a nominal fee rather than to have him go away in an antagonistic frame of mind and report to the Board of Health.

The next point is the charge made by the Board of Health. This institution charges \$2.00 for each salvarsan. Should a patient be an indigent case when he first applies for treatment at the Board of Health and later on secures a position enabling him to again return to a physician after paying a \$2.00 fee, the patient reasons that all charges above \$2.00 are so much personal profit for the doctor and are excessive, leaving him in a frame of mind that the private doctor's charges are exorbitant and causing a lack of faith in the profession.

It does not seem reasonable that so large a number of cases receiving treatment should be public charges, nor that there is such an excess of venereal cases among the indigent poor. By taxpayers the

Board of Health was instituted to assist the physician to practice preventive medicine rather than curative medicine.

It is plainly evident that by the present system of charging, the health board venereal clinic is competing with the private physician in practicing curative medicine and unintentionally injures the patient's respect for the doctor in the field, who, by the way, is one of the taxpayers who supports the department.

I recommend the discontinuance of any charges by this institution; either pay a reasonable fee to the private physician or pay nothing at the clinic; also more complete investigation of the financial condition of venereal cases.

In many of the industrial plants the medical work is handled through insurance companies. These companies have in all cases curtailed expenses and in many cases part of the medical work is handled by first-aid men, nurses, etc. In these instances very often the employe has made the mistake of thinking that the medical aid was being given him by a physician. It would seem advisable that medical treatment be given only by physicians for the protection of the workers.

Respectfully submitted,

(Signed)

Chester A. Doty.

Dr. F. Meader of the Health Department and a member of the committee gave us interesting facts concerning the presence of venereal disease. He stated that about 10,000 cases of venereal disease were reported from Detroit in 1922. Of these 4,000 were reported from the Health Department, of which, in round numbers, 1,110 were sent to private physicians for treatment; 70 per cent of these referred cases get to the physician; 30 per cent apparently leave the city or go to physicians of whom we know nothing.

Mr. Meader's following letter concerning tonsillectomies explains itself:

Dr. R. A. C. Wollenberg,

938 David Whitney Building,
Detroit, Michigan.

Dear Dr. Wollenberg:—

Your letter of October 26th to the Board of Health relative to tonsillectomies, has been referred to me for reply. I will, therefore, take up the questions you presented in the order in which they are given:

1. Who and what departments refer children to hospitals for diagnosis or for treatment of throat conditions? In reply I would state that the division of school medical inspection and also the division of tuberculosis refer cases where indications so warrant.

2. Who eventually decides whether tonsillectomy shall be performed? In reply to this I would state that the physician in charge of the eye, ear, nose and throat clinic recommended 719 children for corrections which would involve removal of tonsils and adenoids during the past year. The physician on duty at the tuberculosis clinic made similar recommendations in about 50 cases during the last year.

Last year the physicians in the division of school inspection recommended 21,672 children receive attention to throat conditions as per the attached slip.

DETROIT DEPARTMENT OF HEALTH —RECOMMENDATION SLIP

Name Date.....
Address Age.....

TO THE PARENTS: In the routine physical inspection of school children by the medical inspectors of the Health Department, there were found on the date above indicated certain conditions with respect to

which it would be worth while to look into more carefully. These conditions may be temporary and of no significance. The examination that we have made was of necessity a rather hurried one and should not be considered absolutely final. However, these conditions may be of a permanent nature which for the best interest of your child should be corrected at this time. We advise that you consult your family physician, who, being more familiar with the previous history, will be better able to decide what corrective action, if any, should be taken.

School
Room
Grade

Medical Inspector.....
Sch. 442.

These children then go to their family physician or to the nearest hospital for further examinations and decision relative to their throat condition. Our records show that during the last year there were 6,377 corrections for tonsils and 4,945 corrections for adenoids performed on school children.

3. Upon what indications is it decided definitely that a tonsillectomy shall be performed? In reply I would state that the following are the rules adopted by the Board of Health as indicating or contra-indicating tonsillectomy:

Rules adopted by the Board of Health for the guidance of its physicians on the advisability of Tonsillectomy:

(These rules have been adopted after consultation with leading specialists in the city, and from a review of literature upon this subject.)

INDICATIONS

1. When there are obstructive symptoms—mouth breathing, difficulty in breathing through the nose, difficulty in swallowing, with or without evidence of high arched palate, or a persistent nasal discharge, tonsillectomy and adenectomy should be recommended.

2. If the frequent occurrence of tonsillitis has produced definite disease in the tonsils as evidenced by irregularity, raggedness and friability, or a recurrence of cheesy material in the crypts giving a foul odor to the patient's breath, or when the patient has symptoms of toxic absorption; for example, malaise, myalgia, anorexia, anemia, etc., tonsillectomy is indicated.

3. In case of persistent cervical adenitis following tonsillitis, whether pyogenic or tuberculous origin, tonsillectomy is indicated.

4. When there is a discharge from the ear or impairment of hearing which has appeared following an enlargement or definite pathological changes in tonsils or adenoids, the removal of tonsils and adenoids is indicated.

5. A patient suffering from a repeated and frequent sore throat, during a quiescent period should have tonsillectomy performed as a prophylactic measure.

6. A patient who harbors diphtheria organisms in his throat without clinical symptoms for a considerable period of time without response to local treatment, should have tonsils and adenoids removed.

CONTRA-INDICATIONS

1. Operation should never be undertaken during the acute stage of tonsillitis.

2. Diabetes is as much a contra-indication as it may be after any operation necessitating general anaesthesia.

3. Tonsillectomy is of no value during the acute stage of chorea, acute rheumatic fever, or endocarditis.

4. Size of tonsils alone without evidence of obstruction is not a reason for tonsillectomy.

5. Tuberculosis, unless indications are such as warrant the risk.

Trusting that the above answers your questions specifically, I remain,

Very truly yours,

F. D. Meader, M. D.,
Director Medical Service.

What conclusions can be drawn from the above accounts?

1. There is a growing condemnation in Detroit, as elsewhere, of the abuse of free and semi-free clinics by an underserving part of the public.

2. (a) The average wage earner with a dependent family of three children and upward does not earn sufficient income to provide against sickness and unlooked for contingencies.

(b) The average unskilled laborer with a family of three children cannot live independently in the city of Detroit, his average earning of about \$100 to \$120 per month being far from the \$142 required for the minimum monthly budget.

(c) The industrial wage scale contributes to the pauperizing of the public.

(d) Of the attendants at free clinics many are wage earners with steady employment, or members of their family, who seek free medical service because their income is insufficient to support them. The only relief for this class could be either an increase in wage or a decrease in the cost of living.

3. The advisability of the charge of \$2.00 for salvarsan administration by the Health Department is open to question.

4. The investigation of applicants for free treatment at the Department of Health venereal clinic is not thorough enough.

The committee found nothing to merit adverse criticism of the Health Department in its methods of handling school children; also, its pre-natal work was approved.

The following resolution was adopted by your committee:

"Hospitals are urged to scrutinize carefully, by adequate social service, the financial status of the attendants at their outpatient department."

The committee wishes to remind our members that social service means assistance to the physician in the education of patients and the control of their environment. It is a medical function. Now, however, it is noted that in some quarters the physician is considered to be an adjunct of social service, and his movements are often directed by the social service worker. Perfect co-operation is necessary for the best results; however, the physician's interest must suffer unless he takes greater interest in community welfare. A passive interest is not enough. His fight against disease must be active and enthusiastic, and he will have less worries about his place in the community complex.

RECOMMENDATIONS AND ADVICE

1. Every member of this Society should realize that the march of progress upsets old customs and traditions, and that readjustments are more or less painful. New problems arise daily. The world changes, and the outlook of the profession of medicine must change with it. Complaisant inertia is dangerous to our profession, and the regular careful survey and study of economics in general and our economic position in particular are necessary to protect us from a position of dependence and vassalage.

2. It is recommended that the restrictions now placed by the Department of Health about female delinquents affected with venereal disease be applied also to males who are similarly stationed and diseased, and that the city council or others in authority be urged to make such provisions.

3. It is recommended that any act on the part

of a physician to make capital out of the worries and fears of unfortunates afflicted with venereal disease and to use these as a lever for gouging shall be considered unethical.

4. Smallpox, diphtheria and typhoid prevention rests largely upon the private practitioner. Standard methods of immunization are in his hands, and he should constantly urge their use and employ them himself.

5. The local health regulations in the state should be as uniform as possible, and efforts by the State Department of Health to bring this about should have our approval.

6. The welfare of our profession demands that hospitals, dispensaries and clinics increase their efforts to weed out predatory patients, whether they may be seeking free or semi-free medical attendance.

7. Physicians doing clinical work are urged to refuse free or semi-free treatment when there appears good and sufficient reason to believe that a reasonable fee can be paid, and that the social service worker's report on any case be considered only on its merits.

8. It is recommended that complaint against employees of the Health Department first be laid before the executive staff of that department. If no satisfactory response is forthcoming that it then be submitted in detail to the Public Health Committee of this Society.

9. It is recommended that the appropriation for the conduct of the Department of Health include a sum sufficient to purchase arsphenamin for administration; indigent patients to receive arsphenamin free.

10. It is recommended that the Department of Health enlarge its social service work in the venereal disease clinic to the end that the recommendations in paragraphs 2 and 6 may be served.

11. It is advised that the methods of the Department of Health in the handling of school children and its pre-natal work are satisfactory, deserve our support, and should be continued.

12. On April 19, 1923, we were informed by the secretary of the Bricklayers' Union and also by the secretary of the Federation of Labor that the average income over the period of a year for the unskilled worker is either \$3.60 or \$3.00 per day, depending whether or not he is a union man. We are also informed that the minimum monthly budget for a family of father, mother and three children is about \$147.00. This shocking disparity as a cause of dependence and poverty must be overcome. It is this disparity which is involved in the high sickness and death rates of infants, children and mothers. Therefore, it is recommended that this Society have a permanent committee on economics which will aim to assist in the solution of social and community problems in co-operation with the City Welfare Department, Board of Commerce, Federation of Labor, etc.

DETROIT HEALTH EXPOSITION

The Exposition movement as endorsed by this Society and as reported upon in past issues of the Bulletin is in process of development. To produce the best possible results the Public Health committee was considerably enlarged by the president, Dr. William Donald. A final report upon this project will be made at a later time.

MISCELLANEOUS ACTIVITIES

This committee commends the Michigan Chirododont Association, members of which legally practice Chirody in accordance with a Michigan state law, Act 64, Bill 45. Registered Chiropodists are thereby placed under the control of the board of registration in medicine.

Registered chiropodists are required by law to limit and to restrict their work to foot abnormalities

seated above the true skin and are not permitted by their license to practice medicine or surgery.

The committee has recommended to the council that members of this Association be recommended for positions in the various orthopedic clinics, their work to be directed by orthopedic surgeons; accepted and passed by the council.

The attempt to keep hospital, clinical, and conference schedules posted on our bulletin board has not met with the support it deserved; however, this service is rendered in part by the Bulletin of our Society.

Respectfully submitted,

R. A. C. Wollenberg,
Chairman.

May 14, 1923.

Full and final details in connection with the Michigan Health Exposition will not be at hand for several weeks. A complete report on this undertaking will be presented to the Society early in the fall of this year.

The committee takes this opportunity to extend its most hearty thanks and grateful acknowledgment to the members of the Wayne County Medical Society, the Detroit District Dental Society, the Detroit Retail Druggists' Association, the First District of Michigan State Nurses Association, the hospitals, the Detroit City and Michigan State Departments, the Federation of Women's Clubs, the Detroit Community Fund, the many civic and community organizations, the merchants and manufacturers, the men, women and children who contributed to our program, and especially to the representatives of the National Health Exposition Association who, by their whole-hearted efforts and support, brought the exposition to a successful end, and who have added a chapter to the health program of our beloved city.

Respectfully submitted,

R. A. C. Wollenberg,
Chairman.

ADDITIONAL REPORT

Agreeable to Dr. Chester A. Doty of this committee and to the executives of the Department of Health, a committee was appointed by your chairman to further investigate a number of cases which were being treated in the Board of Health venereal disease clinic which made full treatment questionable.

It was the desire of your chairman to bring our Society and the Department of Health into complete agreement in the conduct of this clinic, and the report of the committee consisting of Dr. Arthur E. Schiller and Dr. Wm. E. Keane is the result of most painstaking work. Their report follows:

Detroit, Mich., June 15, 1923.

In accordance with the request of the chairman of the Public Health committee we have investigated several cases selected at random from a list of 75 which appeared to Dr. C. A. Doty of the Wayne County Medical Society as being patients financially competent to be under the care of private physicians.

We find and believe that the great majority of these cases, considered from the standpoint of public health, primarily are best handled by the venereal department of the Board of Health.

It is our belief that while many of these patients are listed as earning a fair wage, they are mostly of the "floating," irresponsible type and are no good either financially or morally in keeping their obligations to the private physician.

We recommend, however, strict investigation of these patients as to their economic situation as it is quite possible for patients to falsify answers when first seen at the clinic and thus receive an O. K. for treatment to which they are not entitled.

William E. Keane,
Arthur E. Schiller.

RABIES VACCINE—

The Factor of Safety

RABIES VACCINE (Cumming), P. D. & Co., contains no living virus. All risk of precipitating an attack of hydrophobia by the use of the vaccine is thereby obviated. With the original Pasteur preparation certain precautions must be observed if risk of infection is to be avoided.

The safety and efficiency of the Cumming modification of the original process has been amply demonstrated by its employment in over five thousand cases. Paralysis or other untoward result has never been observed following this treatment.

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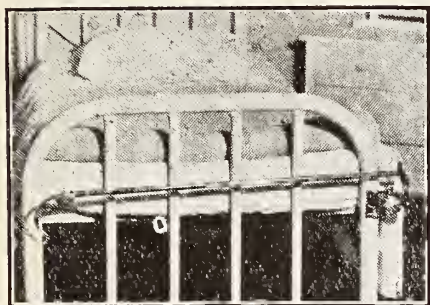
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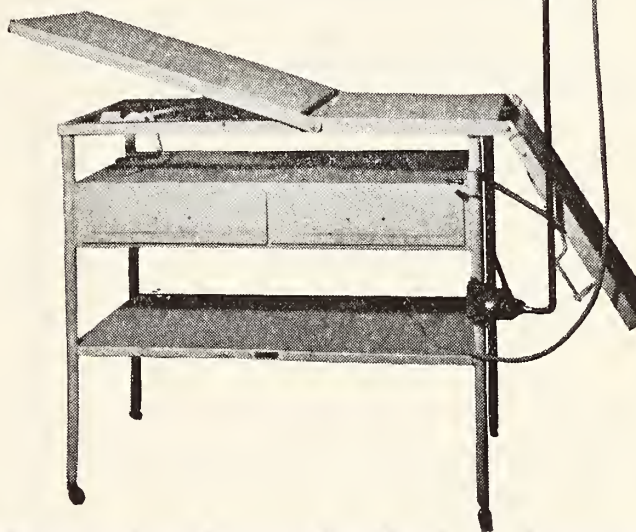
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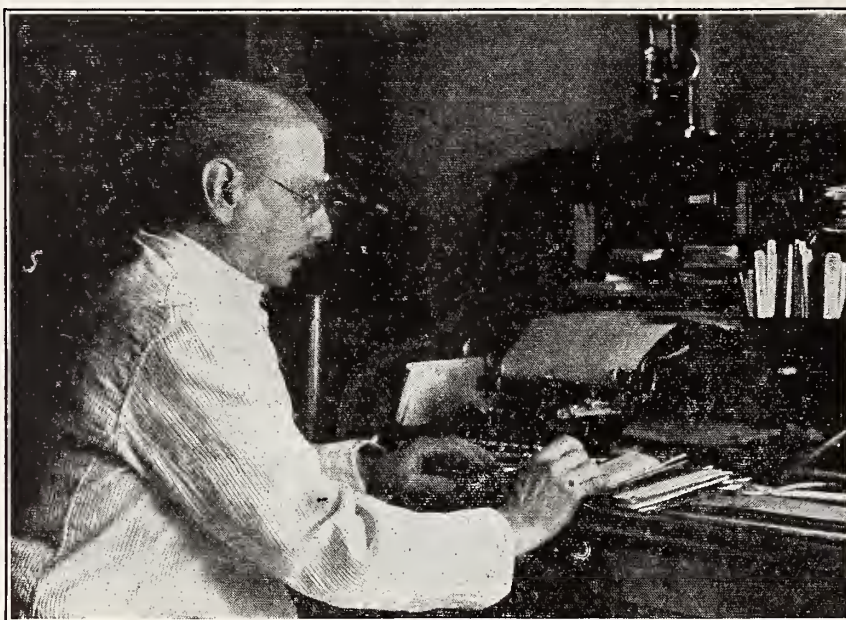
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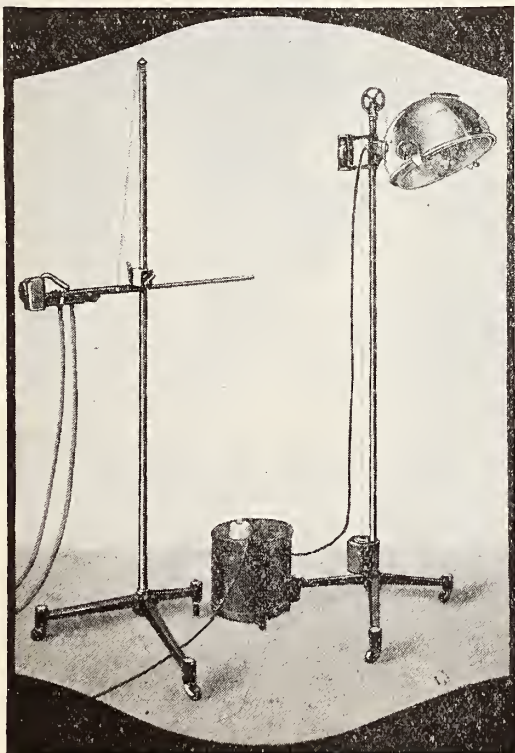
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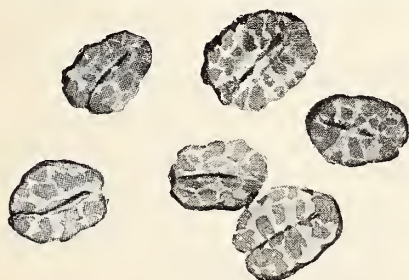
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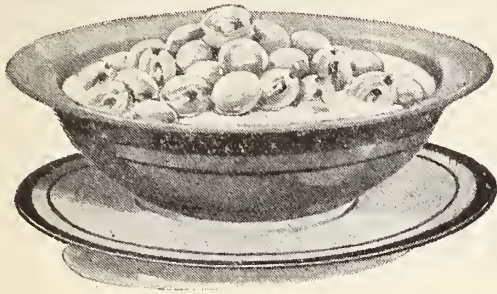
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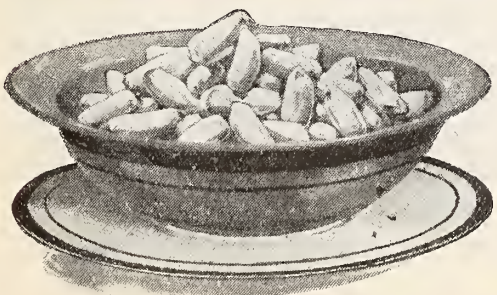
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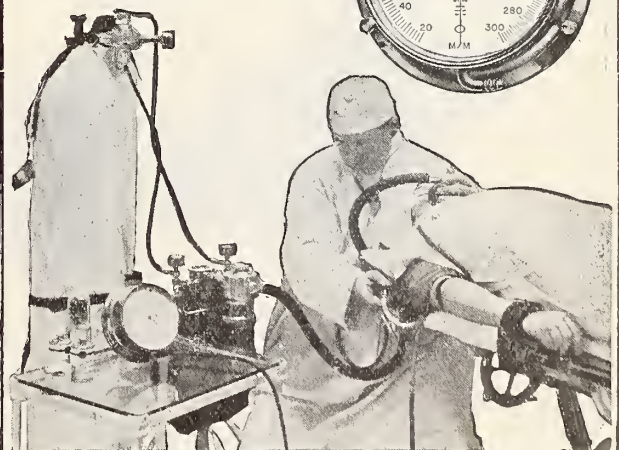
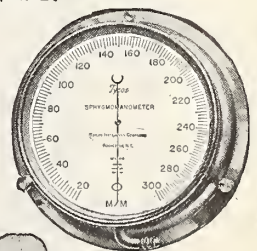
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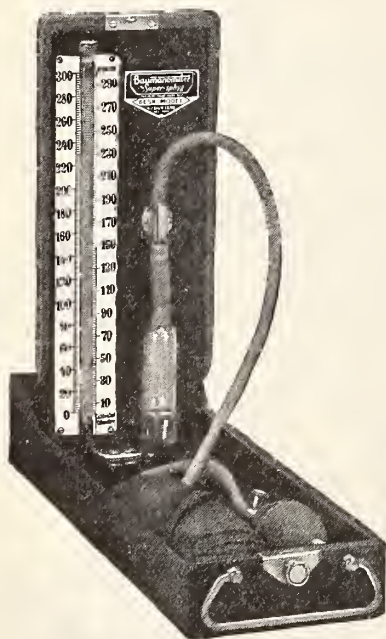
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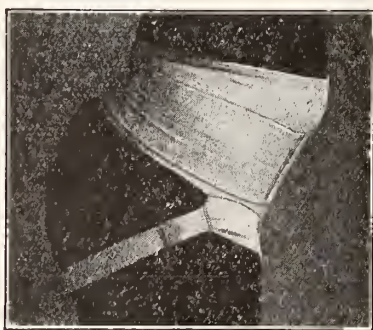
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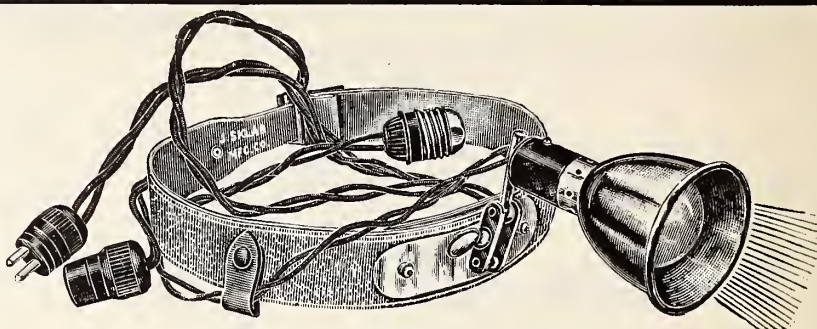
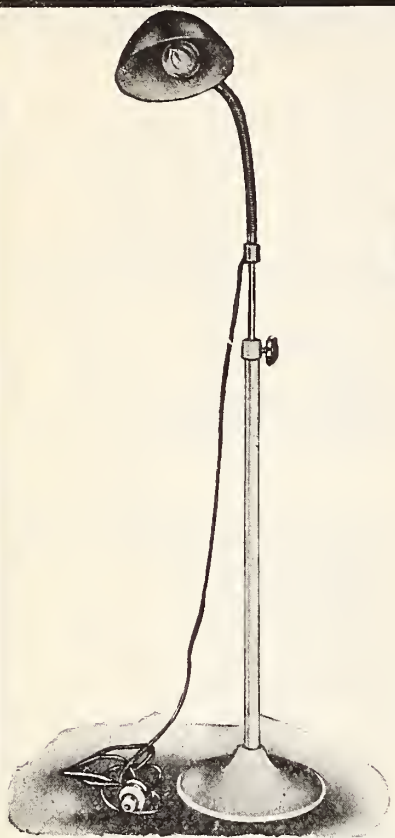
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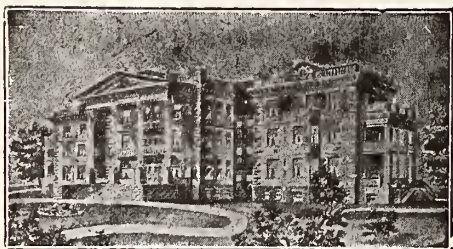
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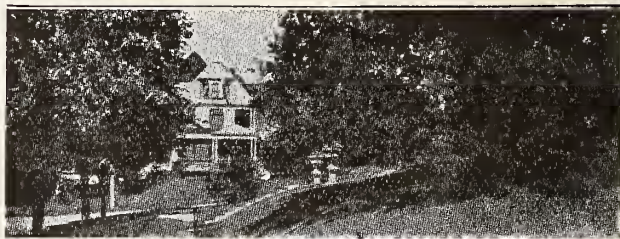
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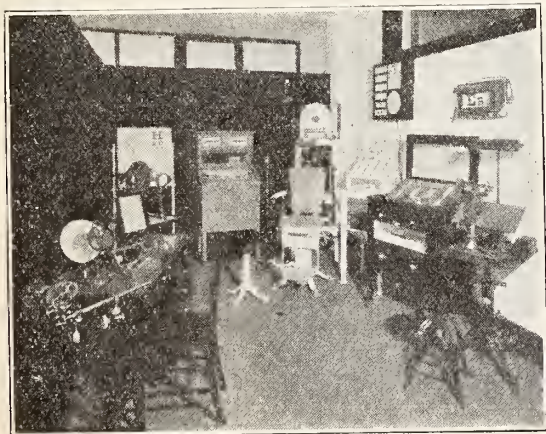
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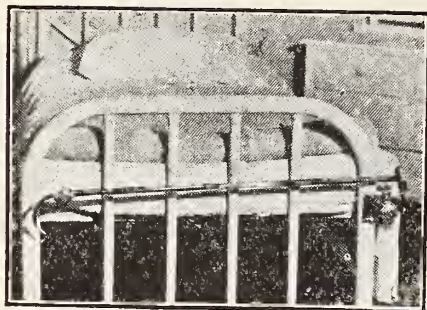
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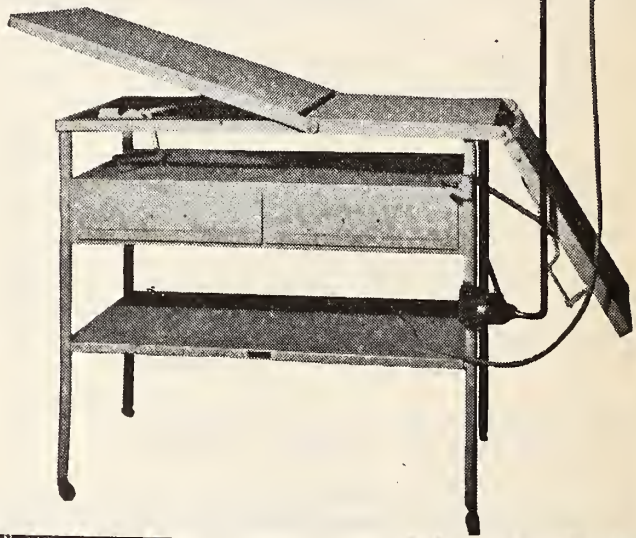
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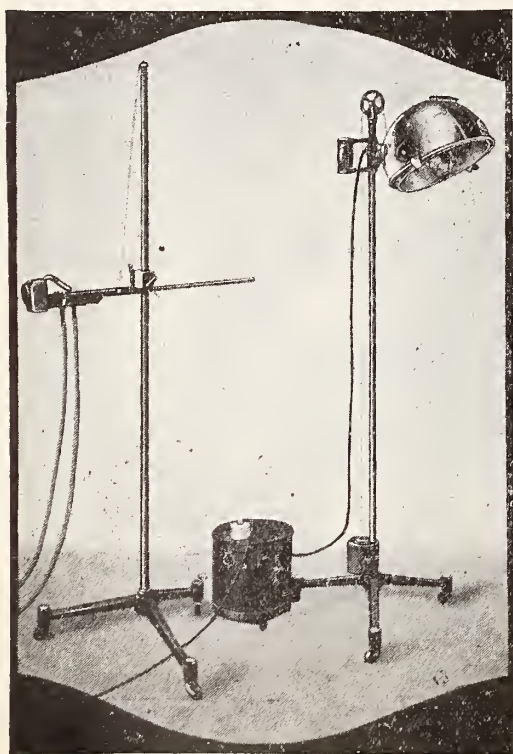
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Original Articles

*INSULIN AND THE MENTAL STATE OF DEPRESSION—A PRELIMINARY REPORT

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The remarkable clearing up of the depression in diabetes on insulin treatment suggested to us quite early in our work with insulin the advisability of making observations on the effect of insulin in states of depression. It is well known that in manic depressive depression the patient may pass back and forth from a state of depression to one of excitation. Raphael and Parsons have shown that a prolonged glucose utilization curve is characteristic of the depressive stage and that the curve goes below normal as the patient recovers or passes into the excitation stage.

The slowness with which glucose is utilized by depressives it would seem, may be due to one or two things—(1) A failure of the pancreas to pour out enough insulin—a disfunction of the pancreas, or, (2) an increase of substances in the body which antagonizes the action of insulin—perhaps an imbalance of these opposing factors, all of which are probably elaborated by the mechanism of internal secretion.

We have determined the following points: The prolonged glucose utilization curve of manic depressive depression is easily made to conform to the normal curve by the administration of a certain amount of insulin. This amount of insulin may be a measure of the disfunction of the pancreas or of the activity of the opposing factors.

It is well known that epinephrin, when injected subcutaneously, causes an increase in blood sugar. Macleod, Banting and their co-workers and Cowie and Parsons have demonstrated that the effect of epinephrin may be overcome by insulin, that is, the hyperglycaemia and the mobilization of glycogen.

We have a number of cases of depression of this type under insulin treatment. The results of this work will be recorded later.

*THE SURGICAL TREATMENT OF THYROID DISEASES

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The thyroid, because of widely diverse changes displayed under varied conditions, has become the best understood of the endocrine glands. Active interest has been stimulated because of its prominent position, evident differences in size and form, numerous pathological pictures, and frequent examples of both over and under activity with their accompanying alteration of the body metabolism. While much progress has been made, the cause of certain types of goitre, the frequency in certain regions, the individual predisposition to adenoma, the etiology of malignancy, and the activating factors in toxicity are problems still incompletely solved.

Medical or surgical treatment is indicated in thyroid diseases to secure relief from size, pressure, deformity, pain, over or under-activity, or to anticipate, cure or check toxic symptoms. In arriving at proper conclusions, certain factors must be taken into consideration; the type of disease present, the duration of the condition, the stage attained, the period of life, the damage produced or accumulated, as well as the result already obtained or expected from any given method. Improper stress and disregard for some of these standards of clinical measurement are responsible for differences of opinion. Taken together, they form a valuable basis upon which to make our clinical diagnosis, estimate the patient's available reserve, advise treatment and formulate a prognosis. Without careful balanced determination of these elements, accurate judgment of the case will not prevail nor can the best treatment be selected for the individual in question.

In considering the operative indications, thyroid diseases are conveniently divided into atrophy and hypertrophy.

1. Atrophy is found in the forms of senile

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atrophy, myxoedema and cretinism. Senile atrophy causes few pronounced symptoms and being but a phase in advanced life, rarely requires or responds to any treatment. Myxoedema and cretinism act best and occasionally quite noticeably to medical management. The surgical treatment of hypothyroidism has been very unsatisfactory to date. Possibly the results in iso-grafting human thyroid tissue might be improved by applying the principle of blood grouping as suggested by Dr. Goodman.

2. By hypertrophy we refer to goitre. For the purposes of surgical consideration, enlargements of the thyroid may be subdivided into inflammatory, malignant, simple goitre and toxic goitre. The many mixed pathological types and the different physiological manifestations tend to increase the complexity of goitre nomenclature. Hence, it seems advisable to confine the discussion of goitre to the more simple classification given above.

Inflammatory changes in the thyroid gland may be either acute or chronic. Fortunately, acute inflammations are rare. Acute thyroiditis may be confused with malignancy because of the firm consistency in its early stage. Exquisite tenderness stands out prominently among the cardinal findings. The indications are for hot applications to the gland. Once abscess formation is detected, early incision with the least trauma and adequate drainage is used. Resection and lobectomy are to be condemned, not only because of their futility, but because new avenues of infection are opened up, permitting gravitation into the unprepared and dangerous area of the mediastinum. Chronic thyroiditis requires elimination of the cause, followed by general hygienic treatment. Partial resection of a goitre enlarged by chronic inflammation is indicated, especially if symptoms of hyperthyroidism are present. Care must be exercised in operating upon thyroids which have been extensively infected in the past, and an adequate amount of gland tissue must be preserved since the inflammation may have impaired the gland function. Tuberculosis is manifested in the thyroid as small, hard nodules. The infected parts of the gland may require excision, but general treatment is always indicated. Gummata may be removed to relieve pressure, although the treatment is essentially medical. Opinion is often sought by thin, under-nourished, anaemic, nervous women between the ages of 30 and 45, who present a flat, woody, strap-like, moderate enlargement of the isthmus. The lateral lobes may be barely perceptible, but are quite firm. Examination will often reveal focal infections elsewhere. Operative treatment of this sclerosed type of gland gives no relief, the indications being eradication of the source of infection plus a hygienic regime.

Malignant tumors of the thyroid gland are more frequent than usually supposed. Two types of carcinomata are recognized: the first is relatively benign and remains local to the thyroid for a long time; the second is actively malignant and metastasizes early and rapidly. Clinically, they present irregular, hard tumors which have suddenly started to grow in long quiescent goitres of individuals usually past middle life. They may simulate organized hemorrhage into an adenoma. Frequently they are accompanied by the toxic symptoms of hyperthyroidism. Exact diagnosis usually entails considerable difficulty in the early stages. In order that better results may be obtained, it is advisable to remove all firm growths before they have progressed to a point where the determination is definite. It is accepted as axiomatic that when a positive diagnosis of malignancy of the thyroid is made, the case is incurable. In case of doubt, we are justified in operating to make a diagnosis. Benign tumors may occasionally be removed on these grounds, but such procedure is justifiable because they never can be more benign as time goes on and frequently they do become hopelessly malignant. Dr. Allen Graham, from a study of a large group of specimens, concludes that more than 90 per cent of cancer of the thyroid develops on fetal adenomata which are of congenital origin and have made their presence known for years. The prophylactic removal of all thyroid nodules is self evident. Sarcomata of the thyroid are relatively rare. They usually appear in younger individuals, the growth is rapid, the tumor hard, smooth, rounded and usually unilateral at the start.

Simple goitre comprises all quiescent enlargements of the thyroid. They are colloid goitre, cystic goitre, and adenomatous goitre. In common are two factors, presence of tumor and lack of over-activity.

Simple colloid goitre is variously designated as atoxic, endemic, or functional. Appearing usually during adolescence and during pregnancy, it seems to serve a functional demand. Having fulfilled its purpose the enlargement usually returns to normal, although it often persists and continues to enlarge. It rarely appears late in middle life. Examination of the thyroid reveals a uniform, symmetric enlargement of the gland involving isthmus as well as the lateral lobes. On palpation a characteristic, smooth, moderately soft, somewhat granular consistency is made out. The microscopical picture is that of irregular shaped, enlarged, dilated acini, containing well staining colloid material. The interstitial tissue is moderate in amount, while the lining epithelium is low, flat, cuboidal in type.

Operation in the adolescent colloid type is rarely indicated. Often it subsides either with

or without treatment. It is in adolescent goitre that Marine and Kimball obtained striking results, on a large scale, along preventative lines, by administration of minute quantities of iodine. Furthermore, the gravid woman should receive a similar medication to prevent the physiological enlargement of the thyroid during pregnancy and to avoid atypical thyroid activity in the offspring. Where a failure to obtain disappearance of a colloid goitre occurs after the use of iodine, one may be reasonably sure that one is dealing with an adenomatous type rather than with a pure colloid. Some warning must be given as to the reckless use of iodine and of thyroid extract in large doses and over long periods. Severe toxic symptoms have often occurred from excessive indulgence. When used, both drugs should be given with the greatest care. Owing to the popularity and to the ease with which thyroid extract can be obtained without prescription, numerous unfortunate results from self-medication have occurred. Measured subnormal metabolism is the one permissible guide to employing this dangerous drug. While the treatment of simple colloid goitre, especially of the adolescent type is mainly medical, extreme size with obstruction or impairment of respiration definitely traceable to the growth is an indication for surgery.

The second type of simple goitre is the cystic. These cysts are usually the end results of hemorrhage into some portion of the thyroid gland. Rarely is the contained material of a clear fluid variety. Rather are they made up of colloid showing various degrees of an atypical thyroid structure. They are usually unilateral or central, and the diagnosis is easily arrived at. The treatment of cysts of the thyroid is surgical because of their size, pressure and unsightly appearance.

The third type of simple goitre is the adenomatous. This is by far the most common type of goitre encountered among adults in the Great Lakes region. In their origin they are either congenital or they may arise in a manner similar to cysts. Clinically, in the simple types of adenomatous goitre, a more or less irregular tumor studded with nodules is presented. On palpation they vary from extreme hardness and firmness to softness and semi-fluctuation. They may be small or extensive and are frequently multiple. They are prone to a variety of degenerations. In their growths, large adenomata tend to thin out the normal thyroid tissue over an extensive circumference of tumor, so to prevent impairment of the remaining healthy gland, definite indications exist for their removal. Under medical or radiological treatment no results are obtained in simple adenomatous goitre other than to magnify the tumors by shrinking the surrounding normal gland tissue. Unfavorable reactions to non-surgical treat-

ment are frequently met with in elderly persons having adenomata of long standing. Adenomata may be present in goitres of young people, but only when they are single or at the most, few in number, is operative treatment indicated. If, however, multiple adenomatosis is suspected, the results will be more satisfactory if the operation is delayed a few years until the patient is older and the position, number and size of the tumors in the gland are better demarcated. While adenomata in adolescent individuals show no improvement with time or medical treatment, still results of early surgery on them may prove disappointing in that minute encapsulated tumors, easily overlooked at the time of operation, start to grow and in a few years are productive of the so-called recurrent goitre. The most common type of substernal goitre is the adenomatous. Because they are frequently productive of interference with respiration in this position, the indication is for early operative removal. While typical symptoms of toxicity may develop with substernal goitre, there is one type which inclines more to chronic obstruction of the respiration rather than to true hyperthyroidism. The eyes exhibit an anxiety rather than the fear expression of exophthalmic goitre. The pulse usually is of average rate. Removal of the obstructing substernal goitre takes away the cause of their anxiety and they rapidly return to normal.

It is established that surgery is the only satisfactory treatment of all types of adenoma in the adult. Their very structure excludes cure by any but operative means. This type of goitre is responsible for nearly one quarter of all thyroid intoxications, precedes 90 per cent of all malignant goitres, is the cause of the majority of obstructions and is always a cosmetic regret. In view of these potentialities, it is best to remove all adenomata from prophylactic, curative or cosmetic standpoints. Since the operative course and results are so satisfactory it is advisable to excise these tumors early rather than to await the development of undesirable symptoms. Frequently but one or two adenomata require excision, but where numerous small tumors are present considerable technical care is necessary in order not to leave minute nodules, which may result in imperfect results or recurrence in the future.

Toxic Goitre includes exophthalmic goitre and toxic adenoma, as well as such mono-symptomatic forms as goitre heart, nervous prostration and the like. In passing, the occurrence of toxic symptoms with inflammation and with malignancy of the thyroid may be mentioned. While the etiology is not entirely known, toxic goitre is a disease of the thyroid gland and the term hyperthyroidism serves to cover the entire group. It may be acute, or slow and insidi-

ous in the initial appearance, and if proper treatment is not instituted early, is characterized by recurrences, each succeeding attack leaving the victim worse off than before. Toxic goitre may present tachycardia, tremor, nervousness, loss in weight, muscular weakness, high pulse pressure, gastro-intestinal upsets, and mental and physical restlessness. In spite of the fact that the two outstanding types of toxic goitre have many symptoms in common and probably have a common origin, they may be readily differentiated from one another. Hyperthyroidism with adenoma may be distinguished from hyperthyroidism with cellular hyperplasia by history of enlargement over a longer period, by the onset of toxic symptoms occurring long after the presence of the goitre was known, by the rarity of exophthalmos, and finally by the nodular appearance and irregular consistency contrasted with the firm, symmetrical condition present in exophthalmic goitre. Furthermore, the tremor in toxic adenoma may be either fine or coarse and the pulse rate may fluctuate from normal to rapid irregularity, whereas in exophthalmic goitre the tremor is fine and the tachycardia is steady and continuous until late. Both types show an increase in the metabolic rate, which may be about equal. Chemical examination of adenomatous tissue shows a variation in the iodine content in contrast to the uniform low amount of iodine in the true hyperplastic gland. In later life and especially during the menopause, adenomata are likely to change with toxic symptoms. In spite of the fact that for all practical diagnostic and therapeutic purposes the various types of increased thyroid activity should be considered as different manifestations of the same disease, a differentiation in symptomatology between the two outstanding types is herein given. This is done for the simple reason that outspoken adenomata are carelessly ignored by sectarian therapists in their zeal to apply proven ineffective non-surgical means. It is universally accepted, we repeat, that surgery offers the only cure for adenoma of all types including adenoma with hyperthyroidism. In hyperthyroidism accompanied by hypertrophy and hyperplasia of the secreting cellular elements, (exophthalmic goitre), the gland is firm, smooth, symmetrical, occasionally tender, and may not be greatly enlarged. Increased blood supply is evidenced by compressibility, marked pulsation of the gland, and of the vessels supplying it, as well as by the presence of a hum and bruit. Microscopically, the colloid, as well as the interstitial tissue, appears relatively decreased due to overgrowth and infoldings of the epithelial cells.

According to the severity of the signs and symptoms, various types of exophthalmic goitre from the mild to the very severe are made out.

While the early stages are occasionally controlled by suitable medical treatment, constant watch and care must be exercised to avoid a sudden outburst of rapidly progressing acute hyperthyroidism with loss of opportunity. Medical treatment includes not only drugs, rest in bed and avoidance of strain, but it also requires that all forms of irritation and focal infection be eradicated. From the standpoint of cure of exophthalmic goitre, radiotherapy is uncertain and unsatisfactory at the present time. Acute exacerbation of symptoms, temporary improvements requiring repetition of treatment and severe burns, often appearing six months to two years after exposure, are seen. Extensive degenerations elsewhere in the body and occasional fatalities have occurred through protracted medical and radiological treatment. Consequently, considerable responsibility is involved in advising or prolonging non-surgical treatment in hyperthyroidism. It is increasingly evident that a definite diagnosis of exophthalmic goitre demands early surgical intervention.

At the present time surgery offers the best results in hyperthyroidism. Results from many clinics indicate that operative interference gives a higher percentage of cures than any other measure, while attended by a minimum mortality rate, and that it secures quickest recovery, with the least impairment to the future health of the patient. This is especially true when operation is performed in the stage before extensive damage has been done to other tissues of the body. The best treatment combines the medical both before and after the all-important link of surgery. The pre-operative preparation is of fundamental importance and is essentially medical. During this period everything is done to obtain physiological rest, to relieve the nervousness, and to increase elimination. Large quantities of water and saline are administered to carry away waste matter from the tissues. Digitalis is given not only to improve the heart, but to assist the circulation in this elimination. Bromides, paraldehyde and morphine are given to induce quiet. Cathartics and intestinal antiseptics are employed. Suggestion, and above all, reassurance are of the greatest value. With such forced treatment it is frequently possible to prepare a patient for operation in a short time. Subtotal bilateral resection has been productive of the most permanent results and is the operation of choice. The return to normal is delayed or the final results less complete when insufficient amount of secreting gland tissue is removed. Where the disease is far advanced and the patient is "physiologically wrecked" as shown by edema, damaged myocardium, and other destructive changes, a complete cure cannot be predicted, but a careful proper operative treatment will

check the further progress of the disease even in this stage.

In regard to the actual operative technique, a few remarks concerning the general handling of all types of goitre will be made. The most satisfactory incision is a transverse one placed directly along the skin planes and carried without beveling directly through the skin and platysma. This should never be made too low as all neck incisions slide downwards and the firm manubrium beneath tends to broaden the resultant scar. The skin and platysma flap is then widely undermined in all directions. The pre-glandular muscles are split vertically down to the gland and in the majority of instances, by gentle retraction, the operation is continued without dividing these muscles transversely. When necessary, however, we do not hesitate to cut the pre-glandular muscles in order to obtain greater exposure. The post-operative progress is more comfortable when this procedure is dispensed with. In dealing with the gland, it is often much easier to split the isthmus vertically to the trachea and then do a subtotal bilateral symmetrical resection, after catching all visible blood vessels about the circumference of the intended incision through the gland. Blood supply is controlled and cut edges of the gland approximated with secure running button hole sutures of fine plain catgut, tying with each stitch. A small portion of gland tissue adjacent to the posterior capsule, amply protecting the neighborhood of the parathyroids and recurrent nerve, is preserved on each side. A thin mat of areolar tissue is left covering the trachea to prevent post-operative irritation and hoarseness due to too close extra-tracheal dissection. Any remains of the thyroglossal duct is removed in order to avoid post-operative hypertrophy of this structure, which may simulate an exaggerated "Adam's apple." The pre-glandular muscles and the cut edges of platysma are then approximated in their original position with fine plain catgut. Omission of accurate platysma co-aptation has resulted in disfiguring scars. Clips are placed in the skin. Drainage is used only where much gland tissue has been incised. A secure dressing is applied with adhesive straps.

In the severe types of toxicity the operative treatment is applied along the more safe lines of the multiple stage operation, each step being graded to the condition of the patient at a given time. Preceded by morphine or heroin, the operation or operations are performed under light nitrous oxide and local anaesthesia. To rely wholly on one or the other frequently is insufficient protection against psychic shock and post-operative hyperthyroidism. Severe cases are submitted to preliminary ligation of the superior thyroid artery, either singly or doubly, while in their bed. We feel that considerable

improvement is obtained by this procedure and that it affords an excellent basis upon which to determine the patient's resistance and upon which to make a decision as to what and when subsequent surgery is possible. Usually a delay of four week after ligation is sufficient before attempting the resection of the gland. Again in the severe types this is done preferably under analgesia and often without the patient's knowledge.

Post-operatively the head of the bed is elevated to eliminate gravity throbbing. Fluids are forced as rapidly as they are absorbed. Morphine is used as indicated, especially during the first 24 hours. Ice caps are applied to the head and the heart. Frequent sponging of the body and extremities with cold water is used to control restlessness. Advanced cases are greatly benefited by transfusion of blood. Actual packing in ice is indicated when there is severe post-operative fever. For some time, we have had considerable success in preventing severe post-operative hyperthyroidism by administering five grains of thyroid extract or ten drops of the syrup of the iodide of iron by mouth the evening and morning preceding operation, continuing daily in this dosage for a week or more thereafter. Iodine in dilute quantities can be given in the post-operative rectal tap water for the first day or two. Following the removal from the hospital, the patient is instructed to continue with the rest treatment for several months. Bland food is given, society avoided and much rest in bed is insisted upon. Experience has demonstrated that the best treatment involves not only many of the therapeutic measures of the internist, but also the all important element of surgery.

SUMMARY

1. The surgical treatment of hypothyroidism of all types is unsatisfactory. Some success is obtained with endocrine gland extracts. Possibly better surgical results may be obtained in grafting human thyroid gland tissue by applying the principle of blood grouping.

2. Acute inflammation of the thyroid gland is treated along the accepted method used for inflammation of other tissues. Chronic thyroiditis demands elimination of the cause. Large goitres, the seat of inflammation in the past, require conservative surgery in order not to produce hypothyroidism. While tuberculosis and syphilis of the thyroid are best cared for by medical measures, size and pressure may be indications for surgery.

3. The avoidance of malignant change in the thyroid depends almost entirely on the removal of nodular tumors in the gland before a definite diagnosis of cancer can be made. Practically all carcinomata of the thyroid develop upon congenital fetal adenomata.

4. Simple goitres have in common the two

factors of size and lack of activity. They may be subdivided into simple colloid, cystic and adenomatous. Adolescent goitres are of a colloid type and are controlled by small doses of iodine, started in early childhood. Colloid goitres and cysts causing disfigurement or pressure require surgical removal. Adenomatous goitre is refractory to any but surgical means.

5. Toxic goitre includes hyperthyroidism of all types. It is generally accepted that hyperthyroidism with adenoma is a surgical disease. It is becoming increasingly evident that hyperthyroidism with hypertrophy and hyperplasia of the epithelial elements of the gland (exophthalmic goitre) is distinctly a surgical condition. The most satisfactory treatment of all types of toxic goitre combines medical factors with surgery.

EFFORTS TOWARD SIMPLIFICATION OF OBSTETRICAL CARE

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For some time we have come to maintain the attitude that child-bearing is now as much a human physiological function as it ever was. Consequently, the members of the obstetrical staff at this hospital have been led to attempt the evaluation of certain of the procedures which were adopted in the enthusiasm of the early efforts to reduce obstetrical mortality and morbidity. The striking reduction of deaths in child-bearing, which followed the adoption of the many procedures advocated in the formative days of the surgical era, cannot be held as sufficient justification for all aspects of the elaborate technic developed at that time, for, with our more matter of fact reasoning, the futility and even danger of some of the procedures must become apparent. Clinical experiments conducted along such lines have established that there are certain unessentials in the usual routine obstetrical care which may be eliminated to no detriment, but rather for the comfort and even to the benefit of patients. The material saving in nursing care alone makes these observations worthy of consideration.

Interest in this direction was shown as early as 1914 when the value of the usual postpartum flushings of the perineum with antiseptic solutions was questioned and subjected to test (1). As a result, the procedure which we now practice is confined to attaining a reasonable degree of cleanliness by washing the perineum with soap and warm water once or twice daily. No antiseptics are employed, nor do we insist upon sterile water or wash cloth. The results are highly satisfactory, perineal tears healing bet-

ter than when they are being disturbed several times a day by efforts to effect surgical cleanliness. Never has there been any reason to believe that even mild infections have resulted from the technique employed. The same "let alone" care is likewise suitable in cases where secondary repairs have been done.

CARE OF BREASTS

The prenatal treatment of the breasts and nipples which is usually recommended has seemed to us to be most inconsistent, when the methods of treatment and the expected results are considered. According to various textbooks, equally good results are obtained by the use of hardening, astringent solutions or alcohol, or by softening the skin with an oleaginous substances, such as cocoa butter. When measures having such different purposes seemed equally efficacious, we were led to the conclusion that natural processes were the important factors and were probably alone sufficient to prepare the organs for nursing. Consequently, for some time now we have done away with the practice of anointing the nipples, and from our results have become convinced that it is useless to attempt to add anything by treatment to the already adequate physiological preparation for lactation, with the exception that regular traction upon retracted nipples may possibly increase their prominence and usefulness for suckling.

A prolonged trial has also shown that postpartum care of the breasts, when reduced to a minimum, gives surprisingly good results and great comfort to the mothers. It is usually futile to attempt to avoid or even to limit to to any great degree the congestion associated with the establishment of the milk secretion. However, some relief is possibly obtained by limitation of fluid intake and the use of saline cathartics with a consequent reduction of the body fluids. Certainly no good is to be expected from massaging or pumping the breasts as it has been established that such practices tend to stimulate milk flow and therefore really prolong the period of discomfort incident to beginning glandular activity. Accordingly, treatment is chiefly directed toward the relief of the attending discomfort and pain by the application of ice-caps, and by the use of a moderately snug supportive binder to relieve the painful tension from sagging of the heavy breasts. Meanwhile, the law of supply and demand becomes effective, and secretion of the milk is rapidly adjusted to the requirements of the child.

When the facts of the case are considered, the usual routine cleansing of the nipples before nursing, for the purpose of preventing mastitis, at once becomes a debatable procedure. Even could a reasonably clean skin be obtained, its desirability from the standpoint of the child

(1) Plass: "Postpartum Care of the Perineum," Johns Hopkins Hospital Bulletin, 1916, XXVII, 107-109.

would be open to question, when we bear in mind that the type of bacterial flora to be obtained from this source is the one for which the child's intestine is probably best adaptable. However, it seems certain that only a negligible number of the bacteria can be removed from the uneven and folded surface of the nipples and areolae by the customary bathing with the very weak antiseptic solutions which are compatible with the child's welfare. This becomes more evident when it is considered that the most thorough preparation of the hands for operation fails to remove any but the superficial bacteria. The obviously questionable benefit to be derived led us to eliminate the practice from our postpartum care. Between nursings the nipples are protected by square gauze pads which are simply discarded when the child comes to the breast again. Results have been in accord with our expectations, and never has there occurred any ill effect that could be ascribed to the change. Fissured nipples are no more frequent, nor do they heal less rapidly; while mastitis has been very rare, and the incidence of postpartum breast abscess has been zero.

DIET

Our attitude toward dietetics for the patient under prenatal care has for its foundation the belief that as a rule the physiological selective urging of the appetite will determine for her, as it does for the nonpregnant, the foods most needed. This leads essentially to the ordinarily recognized "balanced diet." When it is borne in mind that the growing fetus will obtain the food essentials, if necessary, even at the expense of the maternal tissues, it is reasonable to expect that any marked deviation from a properly proportioned intake may cause damage to the mother. Therefore, for instance, the reduction of proteins below a maintenance quantity during normal pregnancy, in an attempt to reduce the load on the kidneys, has never seemed rational to us.

As a consequence of the observations of Prochownick and others, a diet very low in carbohydrates and fluids has been used rather extensively during the latter part of pregnancy, apparently, we believe, without a clear understanding of the results which may be expected. Without question, it has been established that this regime, when pushed to an extreme, will tend to result in the birth of children definitely below average weight, but probably otherwise normal. It was originally recommended in an attempt to decrease the size of the child and thus give assurance of a spontaneous outcome in cases of moderately contracted pelvis. More recently many enthusiastic followers of the teaching have become very skeptical of any real benefit to be derived. When it is remembered

that the skull and other bony structures are practically unaffected, and that the lower weight is due to reduction in fat and body fluids, the futility of the attempt becomes apparent. The negligible results obtainable by a diet low in certain essentials and undertaken with some discomfort and possible injury to the mother are scarcely justified, even in the presence of a contracted pelvis, now that Cesarean section offers a relatively safe method of delivery. Certainly, where the pelvis is normal, the treatment has no place.

Following delivery our patients are immediately placed upon full diet in response to the hunger which is present. Liquid, or other limited diet, seems to be in direct violation of the natural requirements and is a relic from the time when the puerperal woman was considered to be ill, and when the sick were placed upon reduced nourishment as a matter of routine. That the sick in general do better on quantities of food sufficient to maintain strength and to insure reasonable resistance to disease is now generally realized. On the other hand, women who have passed through labor are ill only in the sense that there exists a varying degree of exhaustion following the physical exertion involved, and they stand in need of food as does the athlete. No ill result should be expected and has never been observed here, or at another hospital where for some years this reasoning has been followed in practice. On the contrary, both mother and child have been distinctly benefited by the prompt recovery of strength after labor and early establishment of lactation.

LABOR

The management of labor, except for a few points, does not justify discussion, since it is based upon the firm belief that, in general, spontaneous delivery holds prospects of the best results for both mother and child. During a long first stage the patient's strength may be conserved by the use of pantopon, which gives considerable analgesia and promotes relief and rest between the pains. In our experience this drug, when so used, has a negligible effect both upon the efficiency of uterine contractions and upon the child, unless it is given within two hours of birth. When it seems that labor will be completed within a few hours, usually toward the last part of the first stage in primiparae or earlier in multiparae, nitrous oxide and oxygen analgesia is begun. This anesthetic when given only during uterine contractions does not impair their strength, but rather by the almost complete obliteration of painful sensation results in stronger and more effective voluntary expulsive efforts. In our hands labors so conducted are more rapidly completed and have an extremely low operative incidence. Our experience in regard to occiput posterior

positions is in accord with that of Plass (2) published in 1916. When such cases are treated expectantly, they are not the *beete noirs* of obstetrics as has been so often stated, but really demand operative interference only slightly more frequently than do anterior positions.

As a result of the experiments published by Johnston and Siddall (3), we have discarded the usual scrub and flush method of preparation of the vulva for delivery because of the possible danger of introducing contaminated solutions into the vagina, and are using tincture of iodine diluted with 3 parts of alcohol. The only objection to this quick and simple preparation is the burning pain associated with the application of the solution. This is obviated by a few breaths of nitrous oxide and oxygen. When vaginal examination is required, the same preparation is effected, although only a small section of the region is painted. We see no reason why picric acid solutions should not be just as satisfactory.

THE CHILD

It has been found that general care of the newly born child may well be directed only towards external cleanliness, a constant warm temperature, and sufficient food and water as indicated by the weight. We cannot hold that any of the important details of this simplified system of treatment are original with us. However, the advantages are so generally unrecognized that it seems justifiable to mention at least two of them. By the use of the Ziegler cord clamps, one may obviate any risk of hemorrhage from the umbilical cord, and changing of the original dressings is ordinarily unnecessary since separation usually takes place within three or, at the most, four days. Textbooks still advocate the routine cleansing of the child's mouth before nursing upon the assumption that some of the bacteria may be deposited upon the mother's nipples with dire results. That any reasonable efforts to free such uneven surfaces of bacteria, even if desirable, would be futile, should be self-evident. Certainly scrubbing the tender buccal mucous membrane frequently leads to abrasion, and such injury may conceivably offer a *locus minoris resistentiae* for the growth and discharge of perhaps more virulent bacteria, thus aggravating the condition for which the treatment was instituted and also jeopardizing the child. Moreover, the incidence of thrush becomes so low among babies whose mouths are not subjected to the danger of trauma by

scrubbing that its appearance is scarcely considered.

CONCLUSION

These departures from the usual routine care which have been adopted will doubtless in the near future be thought of as a very conservative advance toward simplification and improvement in the care of obstetrical patients. Certainly in our experience the facts that have been presented here seem to be well established. Other changes which are indicated by theoretical considerations are either still on trial or have yielded results which do not justify our recommendation at this time.

We especially wish to emphasize the following:

1. Postpartum care of the perineum may be safely limited to that necessary for personal cleanliness, even though perineorrhaphy has been performed.
2. No particular ante partum or postpartum attention to the nipples is of value except in the presence of definite abnormalities (retracted or cracked nipples, etc.)
3. In general, the dictates of the appetite furnish the best regulators for the diet of the pregnant and puerperal woman, and complicated dietetic regimes offer little advantage.
4. The judicious use of opiates during the first stage of labor and of gas-oxygen in the second stage increases the probability of spontaneous delivery. Iodine preparation of the vulva for delivery has certain advantages.
5. The care of the new-born should be limited ordinarily to supplying it with proper food, comfortable warmth, and a reasonable degree of cleanliness.

PREVENTION AND TREATMENT OF SIMPLE GOITRE*

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Since the classical description of myxoedema by Sir William Gull in 1874, in which he states that this condition is in some way due to a lack of thyroid function, a great deal of research has been devoted to a study of the physiology of the thyroid gland. Gull's statement regarding the etiology of myxoedema was verified by Revirdin (1882) and Kocher (1883) when they observed results of the total removal of goitrous thyroids. In 1891 Murray, and in 1892 McKenzie and others began the use of glycerinated extract of the thyroid gland in the treatment of myxoedema and secured very definite results.

The discovery by Baumann, in 1895, that iodine was a normal constituent of the thyroid

(2) Plass: "A Statistical Study of 635 Labors with the Occiput Posterior," Johns Hopkins Hospital Bulletin, 1916, XXVI, 164-177.

Johnston and Siddall:

(3) Is the Usual Method of Preparing Patients for Delivery Beneficial or Necessary? American Journal Obstetrics and Gynecology, 1922, IV., 645-650.

*Read before Marquette-Alger County Medical Society.

gland was the first definite information regarding the chemistry of the gland although iodine had been knowingly used for centuries in the treatment of goitre, and knowingly since the time of Coindet (1820). Since Baumann's discovery our knowledge of the physiology of the thyroid gland and of the relation of iodine to its functional activity has progressed very rapidly. In 1902 Baumann and Roos showed that the iodine was bound with the globulin of the colloid and called the resultant compound thyreoglobulin; and as early as 1907 Marine was teaching that the normal function of the thyroid is dependent upon iodine.

It was shown further by Marine in collaboration with Williams and with Lenhart that there is a very definite relation between the iodine content and the histological structure of the thyroid gland. They found that in all the animals studied by them—sheep, ox, pig and dog, as well as man—cellular hyperplasia and hypertrophy are due to a deficiency of iodine, and conversely that in general the iodine store in the thyroid varies directly with the amount of stainable colloid and inversely with the degree of active hyperplasia; so that in the extreme degrees of active hyperplasia seen in cretinoid states of man and animals the iodine store may be entirely exhausted. They found also that if iodine is given to an animal with a hyperplastic thyroid the gland immediately returns to the colloid or resting state, the nearest approach to the normal gland that a gland which has once been hyperplastic can make.

It has also been emphasized by Marine that there is but one cycle of changes through which the thyroid can pass. Starting with the normal thyroid there is a decrease in the iodine store and a corresponding decrease in stainable colloid. If the iodine store falls below 1 mg. per gram of dried gland active hyperplasia begins. Normal thyroid cells are flat or cuboidal in shape and are arranged in layers. With the development of hyperplasia the cells become columnar and are piled up until the solid mass of cells fills the acini. This is the characteristic picture of active hyperplasia following which one of two things must happen; (a) if the iodine deficiency is not met the process goes on to cellular degeneration and atrophy; or (b) if the iodine deficiency is met the cells will return to the colloid or resting stage, in which the gland may be functionally normal.

This cycle of changes may take place many times, the resulting colloid goitre being somewhat increased in size with each change. The physiology of this cycle of thyroid changes is the same whether it occurs at puberty, during pregnancy or in the course of the syndrome known as exophthalmic goitre.

The thyroid gland has an extraordinary

affinity for iodine and the amount taken up by any given thyroid varies with the degree of active hyperplasia. The maximum store is relatively constant for most mammals, and in those thus far studied averages between 5 and 5.5 mgs. per gram of the dried gland. The minimum amount necessary for the maintenance of normal gland structure is likewise constant—averaging about 1 mg. per gram of the dried gland. The average normal iodine content of the human thyroid gland is about 2 mgs. per gram of the dried gland and the maximum total store in a strictly normal human thyroid does not exceed 25 mgs. These facts are of the utmost importance in the practical use of iodine in the prevention and treatment of goitre.

In 1916, Kendall had succeeded in isolating the iodine-containing hormone, which he has termed thyroxin. This is a very stable chemical compound—(C₁₁ H₁₀ O₃ NI₃), 65 per cent of which consists of iodine. This product produces the same pharmacological effects as the whole thyroid gland. Chemically either of the halogens, chlorine or bromine can be substituted for the iodine and a stable chemical compound will result, but it is physiologically inert.

Early in 1917, the practical application of the principle of the prevention of simple goitre in man was started through the public schools of Akron, Ohio, by Marine and Kimball. Their purpose was to saturate the thyroid with iodine twice each year, and for this purpose two grams of sodium iodid were given over a period of two weeks each spring and fall. The reports of this work were published each year for four years. A summary of the results as tabulated in the fourth paper is given in the following table:

	Taking		Not Taking	
	Totals	%	Totals	%
Unchanged	906	99.8	910	72.4
Normal:				
Increased	2	0.2	347	27.6
Slightly enlarged:				
Unchanged	477	41.9	698	72.8
Increased	3	0.3	127	13.3
Decreased	659	57.8	134	13.9
Moderately enlarged:				
Unchanged	29	20.3	57	64.0
Increased			21	23.6
Decreased	114	79.7	11	12.4
	2190		2305	

The small amount of iodine necessary to secure saturation of the gland and the precaution that too much iodine should not be given were emphasized in each publication. It was further suggested that by the administration of a few mgs. of iodine per week throughout the school year maximum results would be secured and the risk of giving too much iodine during a short period would be avoided. Early in 1918 the prevention of goitre

was started in the schools of Zurich, Switzerland, and the suggestion that a few mgs. per week be given throughout the year was adopted. Throughout all the schools in the cantons of St. Gall, Zurich and Berne 5 mgs. of iodine per week has been given to each child for over three years and the reports of the health commissioners of these cantons show even more striking results than have been reported in this country. In all the work in this country and in Switzerland not a single case of hyperthyroidism has developed among those treated. Beginning this year the work in this country has been accelerated by the adoption of this method. Many of the schools in the Cleveland district, in Huntington and Charleston, W. Va., in Hammond, Ind., and in Grand Rapids, Mich., are giving iodine systematically for the prevention of goitre. In most of these cities the school nurse gives to each child one tablet of 10 mgs. of iodine once a week throughout the school year. This seems to be the most scientific and practical manner of administration.

In the Cleveland district only the girls have been urged to take this prophylactic treatment, and in our earlier papers we stated that goitre was about six times as frequent in girls as in boys. However, examination of all boys and girls in the schools of Grand Rapids, Mich., of Hammond, Ind., and of Huntington, W. Va., shows the proportion to be one to two or three instead of one to six. This finding makes it obvious that the prevention of goitre in boys is of much more importance than we had thought and it is therefore urged that boys be included in the application of prophylactic methods against goitre.

Considering the amount of work done and the number of papers written during the past few years on the relation of iodine to thyroid activity, it is little wonder that this conception has become as common as the knowledge of the relation of iron to the redblood-cells. In every article on the prevention of goitre, the efficiency of very small amounts of iodine has been emphasized. Every definite statement that can be made regarding the physiology, the relation of iodine to its histological picture, the chemistry of its secretion and the cycle of histo-pathological changes, emphasizes this same principle. Yet it seems that many physicians think of the relation of iodine to thyroid medication in the same terms as of K I to the treatment of lues. And since we are called upon daily to care for goitres which have developed as a result of excessive iodine medication, it may be well to emphasize a few important points regarding the treatment of these patients.

TREATMENT

*First, in the diagnosis of a pathological condition of the thyroid gland its functional ac-

tivity and not its size should be considered. In the case of a large firm gland of recent development, in which there is no evidence of an increased blood supply and the patient does not show signs of exophthalmic goitre, the condition is an active hyperplasia which needs only iodine, in doses of a few mgs. daily, for involution back to the colloid or resting stage. In dealing with large goitres in adults, most of which are colloid-adenomas of long standing, it seems safer and more rational to consider each case as one of a potential hyperthyroidism. In such cases a sufficiently small amount of iodine should be prescribed and the patient observed carefully at definite intervals.

CASE REPORTS

Case 1. This patient, a young man 19 years of age, had had a small goitre since early childhood (congenital adenoma). Between the ages of 14 and 17 years the gland enlarged and iodine treatment was started, the family physician prescribing a dram of syrup of ferrous iodid after each meal. This medication was continued for 18 months. At the end of the first year the boy was very nervous, could not sleep and was having spells which were interpreted as choreic convulsions; but since the thyroid had decreased somewhat in size the ferrous iodid was continued for six months more. At the end of this period the patient was extremely nervous and the thyroid presented the same appearance as at the end of the first few months' treatment, i. e., it was smaller, but the same nodular masses persisted. The medication was stopped and six months later a thyroidectomy was performed with complete recovery.

Case 2. This patient had always been in perfect health until April, 1922, when she consulted her physician because of a long standing goitre distinctly nodular in type, i. e., an adenoma. A saturated solution of sodium iodid, 5 grains t. i. d. was prescribed. At the end of the first month she returned to her physician complaining of insomnia, palpitation and nervousness, but she was advised to continue the treatment as there had been a slight reduction in the size of the goitre. She continued to take the sodium iodid for two months longer, at the end of which period we saw her. Her condition then could be definitely diagnosed as exophthalmic goitre. Since rest and medical treatment for a period of three months proved ineffective, thyroidectomy was performed, after which she improved rapidly.

Case 3. This patient, who had an adenoma of the thyroid of long standing, began taking sodium iodid of her own volition because she had heard that sodium iodid was being given in the public schools for the prevention of goitre. We have been watching for such a case because when the prophylactic administration of iodine was started in the public schools, it was predicted that indiscriminate self-medication would inevitably result. This, however, is the first case of this kind that we have seen. For three months this patient had taken 5 grains of sodium iodid, t. i. d. with a resultant slight early reduction in the size of the gland. She came to the clinic six months after she began the sodium iodid treatment. Like the preceding case, this patient had a well advanced exophthalmic goitre and the only procedure which can save her from the inevitable outcome of a severe Graves' disease is a thyroidectomy.

These three cases of hyperiodism, one due to

self-medication and two to treatment prescribed by physicians, are typical of many which are constantly applying to us because of symptoms due to excessive use of iodine.

The maximum amount of iodine that the normal thyroid can hold, is, as we have already stated, approximately 25 mgs. The U. S. P. syrup of ferrous iodid contains 41.5 grams of iodine to 1000 cc. and each cc. contains 41.5 mgs. of iodine, and each teaspoonful—the usual dose—contains 166 mgs. of iodine. Therefore the boy whose case was cited first was taking daily 498 mgs. or almost one-half gram of iodine and as this was continued for a period of eighteen months, the boy received a total amount of 269 grams of iodine.

The other two cases cited were using sodium iodid in doses of five grs. t. i. d. or 255 mgs. of iodine per dose or 765 mgs. of iodine per day. Each patient received 69 grams of iodine in three months.

The U. S. P. syrup of hydriodic acid contains 14.5 grams of iodine per 1000 cc. or 14.5 mgs. iodine per cc.

In the treatment of large goitres and especially of long standing colloid-adenomas, a few mgs. of iodine daily—never more than 10 mgs.—will give the maximum effect. The most effective and safest method of administration is by daily doses during alternate months.

In carrying out the functional test on cases of suspected hyperthyroidism, in which the basal metabolism is followed as the chief index to the thyroid activity, the daily administration of 10 mgs. of iodine gives as immediate and permanent effects as does 100 or even 500 mgs. and without the bad results which follow the extremely large doses.

From the point of view of thyroid function it makes no difference what preparation or method of administration is used as long as the thyroid gets iodine in amounts which it can store without excessive stimulation. But from a practical point of view, especially in carrying out the prophylaxis of goitre, the preparation makes all the difference between success and failure. The best preparation of iodine for this purpose appears to be a chocolate iodine combination which has been developed for this purpose, consisting of a vegetable fatty acid (tariric acid—di-iodid), called "Iodostarine," combined with chocolate; each tablet contains 10 mgs. of iodine. This product is very stable, is pleasant to take, is most practical for administration to school children and contains the proper amount of iodine, which makes it perfectly safe.

SUMMARY

(1) Until some method is found whereby the iodine deficiency in our food and drink can be supplied the prevention of goitre should be accomplished through our schools as a mat-

ter pertaining to public health and to education.

(2) The administration of iodine in small doses once a week throughout the school year, under the supervision of the school nurse, is the most practical method of goitre prevention.

(3) In the schools of some of the cities of West Virginia, Ohio, Indiana and Michigan, approximately one hundred thousand children and in Switzerland over ninety thousand children are systematically carrying out this prophylactic measure by taking weekly throughout the year, 5 or 10 mgs. of iodine.

(4) Recent examinations, have shown that the incidence of goitre in boys in this state would warrant the application of this principle of goitre prevention to boys as well as to girls.

(5) The prevention of goitre during pregnancy is as important as its prevention during adolescence and should be a part of the routine care of every expectant mother. The same method as that applied to small children can be employed. 10 to 20 mgs. of iodine per week throughout the entire term should be ample.

(6) In the treatment of goitre the dosage of iodine should be considered in terms of mgs. rather than of grs. Ten mgs. of iodine daily for 30 days should be the maximum amount of iodine given to any patient during a single period of administration.

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*A CASE OF GASTRIC SYPHILIS

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Gastric syphilis was at one time so rare that its existence was questioned. Authorities naturally differ as to its frequency, but in reviewing the literature one comes to the conclusion that it is not of frequent occurrence. Mills (1) says, "Probably a fair guess as to its com-

*Read before the Detroit Surgical Society, Feb., 1923.

parative incidence, based on available statistics, is that there is about one case of gastric syphilis to every hundred cases of gastric organic lesions of other sorts, essentially benign ulcer and carcinoma." This would seem somewhat high. It occurs twice as frequently in men as in women. The average age for its appearance is 40 years, and the average duration of symptoms is two years.

The pathology of gastric tertiary syphilis is, briefly, a terminal contractural sclerosis involving the gastric wall, usually the lower and middle thirds, with extension along the lesser curvature. It is a true syphilitic cirrhosis and may result in an hour-glass appearance or an annular prepyloric contraction. There is a shrinkage of the stomach with a resulting diminished capacity. The microscopical picture is one of dense connective tissue infiltration with the usual round cell infiltration and multinuclear giant cells. This may produce a gumma or gummatous ulcer. The symptoms are not characteristic. There is a variation in the clinical picture, depending upon the extent and site of the involvement. Pain after meals, feeling of fullness as soon as anything is eaten, vomiting, nausea, belching of gas, and loss of weight are the usual symptoms. It closely simulates the slowing progressive cirrhotic carcinoma. Hemorrhage is an infrequent symptom. Achylia is present in 80 per cent and 20 per cent have subnormal values. There is a marked diminution of capacity which may account for the ravenous appetite experienced in some cases.

Anemia is marked and cachexia is not infrequent, while loss of weight is present, it is not as marked as in carcinoma.

Eusterman (2) of the Mayo Clinic has reported 65 cases of gastric syphilis. He states that in 50 to 60 per cent of gastric carcinomas, a tumor can be palpated, whereas in syphilis there are 15 per cent of palpable tumors. Free hydrochloric acid is present in 46 per cent of gastric carcinoma in all stages, absent in 80 per cent of gastric syphilis. The Wassermann reaction is positive in the majority of cases.

Carman states that the X-ray findings are not diagnostic in themselves, but coupled with clinical findings, they are of great value.

CASE REPORT

Miss M. O., age 40, nurse, first seen April 14, 1922 following an automobile accident, was brought to Harper Hospital in deep shock, and vomited blood several times. After her recovery her history was gone into more fully. Seventeen years ago she had had a hysterectomy performed for a fibroid. Had had stomach trouble since 1912. Three years ago she had a gastro-intestinal X-ray which showed "a trace of ulcer and a small stomach." One year ago she had another gastro-intestinal examination by another Roentgenologist. He gave the same report. Last June her appetite failed and she lost about 25 pounds. She had belching of gas and felt distressed

as soon as she ate anything. Occasionally she felt nauseated. Four weeks before her accident she had regained a few pounds. Since the accident she has lost 10 pounds. She is very anemic looking, but the nutrition is good. Ears, nose and mouth negative. Pupils equal and react O. K. Neck and chest negative. Abdomen, low medium laparotomy scar. Tenderness is epigastrium. No masses palpable. Liver not palpable. Superficial and deep reflexes normal. Wassermann with both antigens. Urine negative. Blood count normal. Hgb 60 per cent.

X-ray May 29, 1923. "The first portion of the mixture to reach the stomach passed quickly into the small bowel. During the ingestion of the rest of the meal the rapid gastric evacuation continued, so that there was only a small amount of the meal remaining in the stomach when the patient was finished drinking. We noted that the upper part of the stomach filled out fairly well, but the lower left was never dilated beyond three-fourths inches. There was a perfectly formed duodenal bulb. The stomach in the region of the defect was pliable. Fluoroscopic study, following a second meal, revealed some retention of barium in the upper part of the stomach. The findings point to an organic lesion of the gastric wall. We would rule against ordinary carcinoma as the pathology present. We believe that in carcinoma there would be slow gastric evacuation rather than the very rapid emptying as present in this case. The gastric wall also seems too pliable for carcinomatous infiltration." (Dr. Evans.

She was given the usual course of anti-syphilitic treatment. Three days after the institution of this treatment she gained one and a half pounds and has continued to increase in weight, although not so rapidly as at the beginning. She feels fine and her gastric symptoms are much improved. Her X-ray findings on two different occasions show no change.

Eusterman in fifty-five cases obtained a clinical cure in 42 per cent, improvement in 50 per cent. In twelve cases anatomical restitution to normal was complete.

In differentiating this case from carcinoma:

1. The duration was too long for carcinoma.
2. The extent of the gastric lesion as shown by the X-ray is out of all proportion to the comparatively good condition of the patient.
3. The positive Wassermann.
4. No palpable mass.
5. The therapeutic test.

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SEPTEMBER, 1923

Report Malpractice Threats Immediately to Doctor F. B. Tibbals, 1212 Kresge Building, Detroit, Mich.

Editorials

OUR ANNUAL MEETING

Again we direct attention to the program for our annual meeting, as published in our August issue. We desire to particularly stress and invite your consideration of the following features:

Invited Guests—Among the prominent men who will address us are: United States Senator W. N. Ferris, Rev. A. W. Wishart, Dr. Geo. H. Simmons, general manager and editor of the Journal of the American Medical Association; Dr. Olin West, secretary of the A. M. A.; Dr. Woodard, executive secretary of the Bureau of Legal Medicine and Legislation of the A. M. A. These men will appear before our general sessions and will have messages that are of personal concern to every doctor and to our society. You should grasp this opportunity to hear them.

Section Guests—The officers of our scientific sections have invited men pre-eminent in our profession to discuss pertinent subjects before our several sections. Their presence should inspire a large attendance. They are:

Doctors L. Brown, Saranac Lake, N. Y.; Kenyon Dunham, Cincinnati, Ohio; W. S. Petersen, Chicago; E. E. Irons, Chicago; Frank Smithies, Chicago; M. E. Rehfuess of Philadelphia, Pa.; Willard Bartlett, St. Louis, Mo.; S. D. Giffen, Toledo, Ohio, and Joseph Brennenman of Chicago.

Section Features—The Section on Ophthalmology and Oto-Laryngology has arranged a remarkable program covering three days and features papers, clinics and round-table discussions. It is a most splendid section program.

House of Delegates—The House of Delegates will have presented to it several important matters that demand the presence of representatives of every County Society. The House will hold its first session at 2:00 p. m., on September 11th.

Entertainment—As guests of the Kent County Medical Society, suitable and pleasing entertainment will be provided.

So we repeat, plan to attend this annual meeting in Grand Rapids on September 11, 12 and 13th. Get there the first day and stay through to the evening of the 13th. You will enjoy every minute and profit handsomely. Refer to the August issue for specific details. Grand Rapids bids you welcome.

DELEGATES—ATTENTION!

The first session of the House of Delegates will be held at 2:00 p. m., September 11th. Second session at 7:00 p. m. Third session, September 12th at 8:00 a. m. Fourth session, September 13th at 8:00 a. m.

As a delegate you are not only expected, but it is your duty to be in attendance at *all* of these sessions. You are not representing your county society if you fail to attend. Your county society has the right of representation and as delegate you must not fail them.

Credential cards have been mailed to all county secretaries to hand to their delegates. These cards should be presented to the Credential Committee and *not* at the Registration Booth. The Speaker has appointed the following Committee on Credentials: Doctors C. S. Gorsline, D. J. O'Brien and G. H. Yeo. This committee will pass on all credentials and will be in session before each meeting of the House. Present your credentials to this committee.

HOSPITAL, CLINIC AND GROUP ADVERTISING

As associated members the Principles of Medical Ethics govern our professional activity and conduct. As it governs individuals so to does it apply to groups or combination of individuals engaging in medical practice.

Evidence is at hand that indicate that these principles are being ignored or overlooked by hospital staffs and group clinics. The sentiment and attitude seems to be that hospital staffs and group clinics can do what individuals cannot do. We find hospitals sending out advertising literature and using the columns of daily papers to broadcast their work, services and bidding for patients. We find local, limited groups doing likewise.

This is direct, open violation of our Code of Medical Principles.

Such practices should not be permitted to continue. Persistent pursuit of such practices should be inquired into by our county societies and these violations terminated as promptly as possible.

For guidance we quote, Section Four of Chapter II of the Principles of Medical Ethics:

ADVERTISING

Section 4.—Solicitation of patients by physicians as individuals, or collectively in groups by whatever name these be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional. This does not prohibit ethical institutions from a legitimate advertisement of location, physical surroundings and special class—if any—of patients accommodated. It is equally unprofessional to procure patients by indirection through solicitors or agents of any kind, or by indirect advertisement, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudations defy the traditions and lower the tone of any profession and so are intolerable. The most worthy and effective advertisement possible, even for a young physician, and especially with his brother physicians, is the establishment of a well-merited reputation for professional ability and fidelity. This cannot be forced, but must be the outcome of character and conduct. The publication or circulation of ordinary simple business cards, being a matter of personal taste or local custom, and sometimes of convenience, is not per se improper. As implied, it is unprofessional to disregard local customs and offend recognized ideals in publishing or circulating such cards.

It is unprofessional to promise radical cures; to boast of cures and secret methods of treatment or remedies; to exhibit certificates of skill or of success in the treatment of diseases; or to employ any methods to gain the attention of the public for the purpose of obtaining patients.

We trust hospital superintendents and clinic directors will observe the principle laid down in the above section.

CUTTING DOCTOR BILLS

It seems to be the tendency and practice of corporations, insurance companies and municipalities to cut bills rendered by doctors for professional services to employees. State Compensation Commissions also assume to

dictate what financial returns a doctor is to receive for professional services rendered in compensation cases.

The practice and policy is unjust and unfair. It is a trespass upon a doctor's right. It is a practice that is not upheld by law. But it is being done and by bluff and bull-doing the doctor is told that so much will be allowed on his bill, and that such allowance is in accordance with fee schedules instituted by the Compensation Commission, etc. The result, the doctor, ignorant of his rights, accepts the cut of his bill and is underpaid. The insurance company or corporation has saved money and received professional services at a reduced rate. We repeat, it is wrong. We urge that you do not accept these cuts. Stand on and insist on your just rights. We quote the following decisions:

COMPENSATION FOR SERVICES REQUESTED BY EMPLOYER

(Weinreb v. Harlem Bakery and Lunch Room, Inc., N. Y., 197 N. Y. Supp. 833)

The supreme court of New York, Appellate Division, First Department, in affirming a determination of the appellate term that affirmed a judgment in favor of the plaintiff, says that the action was brought by a physician to recover the reasonable value of his services rendered at the request of the defendant to a man who was injured while in its employ and during the course of his employment. Two defenses were set up: (1) That the court did not have jurisdiction of the action, as the workmen's compensation law of the state confers exclusive jurisdiction on the compensation commission to determine the value of physicians' charges in such cases, and (2) that the action was barred by the workmen's compensation law. But the court does not accept the defendant's views. When the employer provides the medical attendance and treatment, the compensation of the employee for injuries must be based solely on the loss of earning power. It is only in the case of the employer's refusal or neglect to furnish the necessary medical attendance or treatment that the expense thereof can be recovered as a part of the employee's compensation for his injury. In the latter case, the fixing of the reasonable value of such service is exclusively vested in the commission and allowed as a part of the employee's compensation, and the amount fixed becomes a lien on the compensation awarded. The statute does not concern itself with the contract that the employer makes with the physician or surgeon, when the employer provides the medical attendance. He is at liberty to make any agreement that to him seems proper, and make such payment as he may stipulate, for the amount that he pays is not a part of the compensation to be awarded. If the employer hires the physician, it is simply a matter of contract between the physician and the employer. If the amount to be paid is stipulated, the physician is entitled to that sum. If no amount is named, the physician is entitled to receive the reasonable value of his services. A failure to pay gives rise to a common-law action that may be prosecuted in the courts. There is no more reason for giving the commission the right to limit or control the sum to be paid under this contract of employment than there would be to require all contracts with employees to be submitted to the commission to pass on the reasonableness of the wages agreed to be paid.

COMPENSATION FOR SERVICES REQUESTED CLAIMS OF PHYSICIANS AND HOSPITALS UNDER CONTRACTS

(*Western Indemnity Co. v. State Industrial Commission et al.*, Okla., 211 Pac. R. 423)

The supreme court of Oklahoma says that an employe of a company sustained an injury that entitled him to compensation under the workmen's compensation law of that state. Some weeks afterward, the state industrial commission made an award and ordered the employer, or the indemnity company that was its insurance carrier, to pay the amount of the award and also "all medical expenses as may be necessary as the result of said injury during 60 days after the injury or for such time in excess thereof as in the judgment of the commission may be required. Such charges shall not exceed the sum of \$100 unless approved by the commission." When the employe was injured the employer directed him to a physician, and placed him in a hospital. The medical bill incurred was \$135, and the hospital bill \$232.80. The employer paid the hospital bill. The physician's bill was not paid. The insurance carrier paid to the employer, on these amounts, \$100. Thereafter a review was had of the medical bill and hospital bill by the industrial commission, and the commission made finding that the claims of the physician and the hospital were reasonable charges, and ordered the employer or the insurance carrier to pay the physician \$135, and that the insurance carrier reimburse the employer in the sum of \$132, that being the balance of the hospital bill after crediting the insurance company with the \$100 theretofore paid. But the award of the commission is reversed and remanded, with direction to dismiss the claims, because the commission is without jurisdiction to hear and determine claims of this character. In other words, the court holds that the industrial commission of Oklahoma is without jurisdiction to hear and determine the reasonableness or unreasonableness of claims for medical or hospital services when they are based on a contract between the employer and the physician, or on one between the employer and the hospital furnishing services to an injured employe entitled to compensation under the provisions of the workmen's compensation law.

MARTYRS IN MEDICINE

When a man lays down his life for country, principle or calling, he becomes enshrined in our memory and assumes a place among those who posterity reveres, in greater or less degree, as martyrs.

Our profession has contributed many martyrs, whose lives have been offered for country, state and society. The list is long, with many outstanding names. Some made the supreme sacrifice for country, some for science and some for society. We honor them; we revere them. To us it has always seemed that the greatest martyrs were not those whose sacrifice was associated with the glamor of heroics, or, the pre-eminence of environment. Commendable as may have been their sacrifice, and meritorious of all honor, still compensated in a degree by the deed and the occasion. Greater, indeed, the martyrdom of him or her, who in the faithful performance of their daily and sometimes monotonous routine, meet death and give their

lives while laboring along the quiet by-paths of life.

Such was the fate of one of our fellow-members, Dr. W. S. Shipp of Battle Creek, who on July 25th gave his life for duty, society and country when he fell from the bullets of an assassin in the person of a demented ex-service man. The incidents surrounding his death are imparted elsewhere in this issue. We pause to pay honor and respect. We desire to record his name among the martyrs of our profession.

CAUSES OF DEATH

In a review, covering a period of five years, five of our leading life insurance companies have compiled an interesting statistical study of the causes of death among their policy holders and health registration areas.

Tuberculosis heads the list with a death rate in 1920 of 154.5 per 100,000. A showing that still deserves the thought of health officers ere they become too imbued with the pursuit of fads and fancies. In addition to ranking as the leading cause of death, it stood first at the following age periods: 15-19, 20-24, 25-34, 35-44, and 45 to 54 years.

Influenza and pneumonia ranks second as a cause of death.

Organic heart disease is third in numerical importance, with a death rate of 127.5 per 100,000. It is estimated that over 2,000,000 people in the United States are suffering from serious heart impairments.

Bright's disease ranks fifth with a death rate of 84.7 per 100,000.

Accidents causing death was sixth with a rate of 73.2 per 100,000.

Cancer, with a rate of 72.0 per 100,000 is seventh on the list.

Cerebral hemorrhage, apoplexy, is eighth with a rate of 62.8 per 100,000.

Next comes four communicable diseases, measles, scarlet fever, whooping cough and diphtheria.

The puerperal state, including all conditions dependent upon pregnancy and partuition, together with affections of the breast during lactation, was 20 per 100,000. In the U. S. 19 per 100,000; 33 per cent of these deaths were due to septicemia, 24 per cent to albuminuria and convulsions, 16 per cent to the accidents of pregnancy and 15 per cent to the accidents of labor, with the remaining 13 per cent caused by embolism, heart disease and phlegmasia.

Diseases of the arteries caused a death rate of 15.6 per 100,000.

Diabetes is the next death cause with a rate of 15.4 per 100,000. Appendicitis has a death rate of 11.2 per 100,000; cirrhosis of the liver, 10.1 per cent; typhoid fever, 8.3; acute polio-

myelitis, 3.2; cerebrospinal fever, 1.5; pellagra, 3.2, and malaria, 8 per cent.

There is much for reflection in these figures. There is a definite warning to the profession.

Editorial Comments

The annual meeting of the College of Surgeons and the Clinical Congress of Surgeons will be held in Chicago in October. An attractive and instructive clinical program has been arranged.

County Secretaries are requested to state, when registering, that they will attend the luncheon on Thursday noon with the members of the Council. Every county secretary is expected to attend.

Have you sent in to the secretary of the A. M. A. your application for Fellowship in the A. M. A.? If not, do you not feel that you should? Michigan doctors should support the American Medical Association by becoming a Fellow. The Journal of the A. M. A., which is sent you is worth the Fellowship fee a hundred times over. Join now. Support those who are constantly active in your behalf.

If you have been undecided as to whether you were going to Grand Rapids on September 11, 12 and 13th to attend our Annual Meeting, we suggest that you turn to the program in the August issue. Inform yourself as to the invited guests who are to read papers and the other features of the section programs. We feel certain, that with this information, you will want to attend this meeting. Make up your mind now. Write for reservations and do not miss this meeting.

The Journal expresses its appreciation to those of our membership who have contributed to the support of The Journal by causing their professional announcements to appear in our advertising section. The number is comparatively small, especially when we compare the number of such announcements with those appearing in other state journals. However, we are hopeful that there are other members who are willing to contribute similar support and that with resumption of practice, after vacations, we may receive their requests for space. Just drop us a line telling us to insert your card and enclose copy. Will you contribute this support? Turn to our advertising section and join these men who make their contributions for a better and larger State Journal.

We were quite proud of our August issue. Especially because of the mint of information that was imparted in the reports from the American Medical Association. Did you read them? Did you learn what was being done to solve the nurse question? Did you glean what is being formulated for post-graduate medical instruction? Did you perceive what our national organization is doing in medical legislative matters? Did you glimpse the plans for future medicine and the doctors' welfare in President Wilbur's address? Did you become enlightened upon what the A. M. A. is really doing for you? If you missed these wonderful, constructive efforts, turn again to the last issue and read those reports again. No physician should be without that in-

formation. So turn back, brother, and get abreast of medical activities.

Last month we devoted considerable space to the publishing of reports that revealed the work that was being done by the American Medical Association. We desired to impart to you more definite information as to what our national organization is accomplishing in your behalf. We also pointed out the difference between membership and fellowship in the A. M. A. We believed that with this information you would want to become a Fellow of the A. M. A. Have you made application? If not, do you not feel that you should? Then why not do it now? Again we urge that you support your national association. Make application for admission as a Fellow and in addition to all the other benefits of Fellowship you will receive the Journal of the American Medical Association and also a monthly copy of the Bulletin.

Insulin is in the limelight, and rightly so. The use of Insulin in the treatment of diabetes is the most important advancement of medical therapy of the year. It is a most potent and effective agent when scientifically exhibited in the treatment of diabetes. It is not a specific. It is not a cure-all. It cannot be routinely administered without the most careful and detailed laboratory examination of your patient's blood and metabolism rate. It cannot be given by mouth, in spite of the advertisements and literature of some drug firms. It is a remedy that is potent of doing much harm and even producing fatalities if its administration is not properly safeguarded and a normal blood-sugar ratio maintained. Again, it is a remedy that will produce most startling and beneficial results when properly administered. Do not be too cocksure and employ Insulin injudiciously. Or, as we heard one man remark: "Oh, well, we will operate anyhow, even if she is a diabetic, and if we get into trouble we will just shoot her some Insulin." Heaven forbid the further development of such an attitude among surgeons and doctors.

Thoroughness and completeness of examinations of patients consulting physicians is woefully lacking. It is disheartening to review the penalties to the patient and also to the physician that result from neglect of thorough and complete physical examination. Especially is this true in conditions involving the rectum. Doctors have stethoscopes, auroscopes, ophthalmoscopes, urethroscopes, vaginal specula, lights, illuminators and other diagnostic instruments. The proctoscope is absent. Yet witness the many cases of rectal disease and malignancy. Many of them, and especially the malignancy, are well advanced before they reach the thorough examiner and then too late to accomplish a cure.

When a patient presents, complaining of hemorrhoids, fissures or hemorrhage from the rectum, does the average physician make an examination to determine the condition? No, it's a prescription for an ointment or a suppository and "Let me know if you don't improve." This "let me know" is continued and drawn over weeks and even months. Then your patient goes where he can and will secure a thorough examination. And alas, when he does, how often the diagnosis, inoperable, advanced carcinoma. Neglect has caused the doom of the patient. We urge that you examine patients complaining of rectal disease. We urge that to your many "scopes" you add the proctoscope and use it.

State News Notes

COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

WANTED—Doctor for saw mill town in Lower Michigan, on trunk line road and good farming community. Free house, fuel and light; will pay \$600.00 for Company work. Good opportunity to build up good practice. Have good drug store. Johannesburg Mfg. Co., Johannesburg, Mich.

FOR SALE—Albion, Mich., 25 years established practice—physician recently deceased—modern Methodist College town, 9,000 population. \$100,000 hospital nearing completion; fine opportunity for physician and surgeon. Well equipped office and library; easy terms for quick sale. Address Mrs. W. C. Marsh, 303 E. Erie Street, Albion, Mich.

OWING TO ILLNESS in physician's family, one of the finest general practices in Detroit is for sale. Cash income exceeds \$20,000 yearly. Location ideal. Equipment and furnishings the best. Competition negligible. Sale price, based on valuation of equipment, totals between \$4,000 and \$5,000, including valuable appointments and thorough introduction. Lady office assistant knows entire clientele and can remain with purchaser. Fees excellent. No night calls and no confinement work except at hospital. Surgical opportunities unsurpassed. Ideal place for a country physician of personality and experience. Don't answer unless you have the money and can come and investigate.—(c/o Journal.)

Dr. H. S. Collisi, Grand Rapids, spent the month of August in Topinable.

Dr. G. H. Southwick, Grand Rapids, spent the month of August in Canada.

Born, to Dr. and Mrs. B. R. Corbus, Grand Rapids, a daughter.

Born, to Dr. and Mrs. M. M. Dewar, Grand Rapids, a son.

Dr. R. W. Webb, Grand Rapids, spent his vacation in Canada.

Dr. and Mrs. H. R. Varney of Detroit, spent the month of August at LeCheneaux club.

Miss Beatrice Biddle, only child of Dr. and Mrs. A. P. Biddle of Detroit, died August 7, 1923.

Dr. Roger V. Walker of Detroit, was married to Miss Helen F. Reade of Escanaba, August 16, 1923.

Dr. and Mrs. F. W. Robbins of Detroit, spent six weeks this summer in a tour through New England.

Dr. and Mrs. F. B. Tibbals of Detroit, spent the summer in their cottage on Hickory Island.

Dr. and Mrs. John C. Dodds of Detroit, spent the summer in Europe.

Dr. and Mrs. E. L. Roach of Wyandotte, spent the month of August motoring through the east.

Twenty physicians took the special insulin course, given by the University of Michigan this summer.

Dr. R. J. Hutchinson, Grand Rapids, returned

September 1st from a two months' vacation, spent in his camp in Canada.

Dr. H. J. Beel, Grand Rapids, has opened offices in the Metz building, severing his association with Dr. R. J. Hutchinson.

Dr. Mary G. Haskins of Detroit, spent the month of June and the first half of July on her farm in Connecticut.

Twenty-five thousand dollars has been raised in this country during the past 15 years through the annual Christmas Seal sales.

At the July meeting the board of governors of the Detroit Athletic Club elected to membership Dr. George P. McNaughton and Dr. R. V. Walker.

Dr. and Mrs. C. A. Fettig of Detroit, announce the engagement of their daughter, Miss Jean L. Fettig, to Mr. L. S. Palmer of Detroit.

Dr. and Mrs. Neil Bentley and family of Detroit, spent the month of July at Harwichport, Cape Cod.

Dr. and Mrs. F. B. Tibbals of Detroit, announce the engagement of their daughter, Miss Margaret B. Tibbals, to Mr. H. M. Shaw of Detroit.

The eighth annual meeting of the American Association of Industrial Physicians and Surgeons will be held in Buffalo, October 1-3, 1923.

The American Association for the Advancement of Science will hold its seventy-seventh meeting in Los Angeles, September 17-30, 1923.

Dr. and Mrs. G. B. Hoops of Detroit, spent the month of July touring in the east. They stopped in Boston, New York and other eastern cities.

Dr. and Mrs. H. H. Johnson of Detroit, spent the summer at Winthrop Beach. The doctor took a summer course at Harvard.

Dr. and Mrs. George Waldeck of Detroit, spent the month of August at Havenside, Martha's Vineyard.

Dr. William H. Welch of Baltimore, received the honorary degree of Doctor of Science from the University of Cambridge, England, June 12, 1923.

Dr. and Mrs. George H. Palmerlee of Detroit, took a six weeks' motor trip through New England this summer.

There are six open air schools (enrollment, 709.) and nine open window rooms (enrollment, 401.) in the public schools of Detroit.

The Upper Peninsula Medical Society held its annual meeting in Iron Mountain, August 22-23, 1923.

Mrs. Warren L. Babcock and family of Detroit, spent the summer at their cottage on Hickory Island. Dr. Babcock joined his family over week-ends.

It is reported that construction on the ten-story Professional building, Grand Rapids, will be started in October. Building to be completed by October, 1924.

Dr. Joseph Johns of Ionia, returned on July 28th from a trip abroad. He was clinical assistant surgeon in the Royal Infirmary of Glasgow for a period of three months.

Professor Wenckeback, chief of the first medical clinic of Vienna, gave a lecture and held a clinic on heart disease at the Battle Creek Sanitarium on August 7th.

Dr. B. R. Shurly of Detroit, was re-elected delegate from the Section on Laryngology, Otology and Rhinology to the House of Delegates of the American Medical Association for the coming year.

The thirty-sixth annual meeting of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons will be held in Philadelphia, September 19-21, 1923.

Dr. W. W. Keen of Philadelphia, attended the sixth triennial congress of the International Surgical Society, held in London, England, July 17, 1923. Dr. Keen is 86 years of age.

Dr. and Mrs. William M. Donald of Detroit, spent the summer in their cottage at Clarkston, Mich. Dr. and Mrs. Douglas Donald spent the month of August with their parents.

Dr. L. J. Hirschman of Detroit, was elected delegate from the Section on Gastro-Enterology and Proctology to the House of Delegates of the American Medical Association for the coming year.

Dr. Livingston Farrand, president of Cornell University, was recently elected president of the National Tuberculosis Association at its annual meeting, held in Santa Barbara, California.

Dr. Frederick P. Gay has resigned as Professor of Bacteriology in the University of California to become Professor of Pathology in Columbia University, New York.

Governor Smith of New York recently appointed Dr. Simon Flexner, chairman of the Public Health Council, and Dr. Mattias Nicoll, Jr., State Commissioner of Health.

The Chicago Medical Society is the largest local medical society in the world, having 3,771 active members, 50 honorary members and 43 non-resident members.

Dr. Guy L. Connor of Detroit, gave an address at the banquet of the Upper Peninsula Medical Society meeting in Ironwood on August 18th. Dr. W. T. Dodge also attended and was one of the speakers at the banquet.

Dr. Guy H. McFall states that, during the past 14 years, on an average, 20 per cent of the tuberculosis patients at the Herman Kiefer Hospital, Detroit, have laryngeal lesions.

The fifth Year Interne Course at Harper Hospital, Detroit, includes: Surgery, 28 weeks; Medicine, 16 weeks; Obstetrics, 8 weeks. In addition the interne will be given an extra course in special laboratory work and in anesthetics.

The Canadian government has granted Dr. F. C. Banting an unconditional annuity of \$7,500 a year. He is the first incumbent of the Banting-Best Chair of Research in the University of Toronto (salary

\$6,000 yearly). Thus the doctor has an assured income of \$13,500 a year.

The council of the British Medical Association will entertain as the guest of the evening at the council dinner (October 24, 1923,) Sir Dawson Williams, who has completed 25 years as editor of the British Medical Journal.

The Medical Veterans of the World War elected the following officers at its annual meeting, held in San Francisco, June 28, 1923: President, Dr. J. C. Vaux of Pittsburgh; vice president, Dr. B. F. Adler of San Francisco; secretary, Dr. A. T. McCormack of Louisville.

Beginning July 1, 1922, the Out-Patient Department of Harper Hospital, Detroit, began to make a charge for each patient's visit. The attendance has not been diminished by this practice. The number of cases of minor illnesses has diminished, but the number of cases of serious ailments has increased.

The Michigan supreme court held (case of Frankamp v. Fordney, et. al.) that typhoid fever, contracted by an employe of a hotel as a result of drinking water furnished by the hotel, is compensable as an accident within the meaning of the workmen's compensation act.

The Henry Ford Hospital, Detroit, has offered free treatment to disabled world war veterans. More than 50 are already under treatment. In extreme cases of destitute families of former service men, children needing hospitalization will be treated when designated by the office of the American Legion.

During the past year 523 tuberculosis patients were admitted to the Herman Kiefer Hospital, Detroit, (209 deaths;) 616 to the Northville Sanatorium (38 deaths;) 69 to the Eloise County Hospital (15 deaths;) 100 to the Summer Recuperation Camp for Children.

At the twenty-fourth annual meeting of the American Therapeutic Society, held in San Francisco, June 23, 1923, the following officers were elected: President, Dr. G. H. Evans of San Francisco; vice presidents, Doctors C. I. Greene of St. Paul, W. F. Milroy of Omaha, and R. D. Rudolf of Toronto; secretary, Dr. L. H. Taylor of Washington, D. C.; treasurer, Dr. S. L. Dawes of New York.

During the past school year the Detroit Department of Health, in co-operation with the Detroit Board of Education, conducted 99 nutrition classes (an enrollment of approximately 1,500), for severely underweight and undernourished children. The classes were chiefly educational in character and designed to develop proper health habits. Each class lasted only 12 weeks and its personnel was entirely made up of children who were 15 per cent or more underweight. It was not expected that the small amount of supplemental feeding given (a half pint of milk and two graham crackers) would in so short a time enable any large proportion of the children to get back to normal weight. As a matter of fact, 2 per cent of the children reached normal weight at the conclusion of the classes. However, if the instructional work has been interestingly given, the health habits will continue long after the class has ceased and through them the child will eventually reach normal weight and, what is of greater importance, he or she will probably stay there.

C. M. Sampson, formerly chief of the Physiotherapy Department of the Mammoth U. S. P. H. S. Hospital, No. 41, at Fox Hills, Staten Island, N. Y., and at present engaged in lecturing in the various medical centers, is scheduled to give a series in Detroit, beginning October 8th. At the Fox Hills clinic, much original research work (such as the method of preventing and clearing up X-ray burns) was accomplished. A personnel of 110 operators averaging at times over 2,300 treatments per day, was here trained and directed by Dr. Sampson. One of the lectures included with this course was a 6,000-foot film to illustrate his work there. Major Sampson is devoting much energy to the question of ways and means for eradicating the "incubus of the short-cut therapy cults," as he terms it, and as many eminent leaders in the medical profession are now interested in his work an unusual impetus is being given this movement. For further details regarding these lectures address Manager, Major Sampson Detroit Lecture Course, care A. T. Newton, 641 David Whitney building, Detroit.

County Society News

HOUGHTON COUNTY

The July meeting—The Society accepted the invitation of Dr. John Moore to his bungalow on the shores of Portage lake. A sumptuous supper was served to 20 members and their wives. All present thoroughly enjoyed the doctor's hospitality and three cheers and a tiger were given Dr. and Mrs. Moore as an expression of appreciation of a most enjoyable evening.

The August Meeting—The staff of the Memorial Hospital of Laurium presented the following program with clinical cases:

1. "Progressive (Spinal) Muscular Atrophy," Dr. George Reese.

2. "Sarcoma of the Neck," Dr. Andy Roche.

3. "Prostatectomy," Dr. H. M. Joy.

Lunch was served by the hospital nurses.

The Medical Society is enjoying these meetings at the different hospitals and we are having a most excellent attendance and program. The presentation of clinical cases enlivens the papers and the discussions.

The September meeting will be given by the staff of St. Joseph's Hospital at Hancock.

A goodly number of this society will attend the Upper Peninsula Medical Meeting at Iron Mountain, August 22 and 23. Also the state meeting in September.

Charles E. Rowe, Secretary.

Book Reviews

EXCURSIONS INTO SURGICAL SUBJECTS—By John B. Deaver, M. D., and Stanley P. Rieman, M. D. Octavo volume of 188 pages and 30 illustrations. Price \$4.50, net. W. B. Saunders Company, Philadelphia, Pa.

When Deaver writes or speaks, the surgical world particularly and the medical profession especially, pause, listen, learn and profit. In this volume he discusses Peptic Ulcer, Jaundice, Diseases of the Bile Passages, Trials of a Surgeon, Surgical Conditions of the Intestinal Tract, Pasteur's Contribution to Modern Surgery, Medical Education and Living Pathology. An array of topics upon which we recognize Deaver as an authority and master. Every medical man, surgeon or internist, should acquire this valuable text. It is a most meritorious addition to our medical literature. We commend it heartily.

PHYSIOTHERAPY TECHNIC: C. M. Sampson, M. D., 85 illustrations, 434 pages. Price \$6.50. C. V. Mosby Company, St. Louis, Mo.

If this text was in the hands of every doctor, if every doctor obtained thereby a proficiency in physiotherapy, if every doctor employed physiotherapy, then there would be fewer cults who treat class of patients. This is a splendid, lucid text written by a man of extended experience and who had an additional wonderful experience in the physiotherapy service of the army. Physiotherapy is of equal importance as is therapeutics, and surgery. It is a potent for results. Pity is that doctors neglect it. This text will enable you to employ physiotherapeutic agents and secure results. We commend without reservation.

THE MEDICAL CLINICS OF NORTH AMERICA—July, 1923. Published bi-monthly. W. B. Saunders Company, Philadelphia, Pa. Yearly subscription, \$12.

The July number is the Mayo Clinic number, with articles by members of that staff. There are four interesting, instructive articles on Insulin. The other articles cover a varying, wide range of subjects of practical and timely interest. Certainly the whole number consists of wholesome, scientific educational manuscripts.

PAPERS FROM THE MAYO FOUNDATION—Papers from the Mayo Foundation for Medical Education and Research and the Graduate School of Medicine of the University of Minnesota, covering the period of 1920-1922. Octavo volume of 716 pages with 257 illustrations. Cloth, \$10 net. W. B. Saunders Company, Philadelphia, London.

As the title implies, this volume imparts important papers and reports of investigations and studies of this school. Some of the theses and studies are of exceptional value and interest. Some are not. Again, the collection is disappointing by reason of so many abstracted articles, which in their abstracted form are of little value and interest. They might better have been simply listed by title. About the poorest text issued by the Mayo Foundation.

INTERNATIONAL CLINICS: Vol. II.—1923. J. B. Lippincott Co., Philadelphia.

Always a text of valuable information and instructive. More so in this issue because of a complete discussion on Insulin and diabetes. The way the subject is covered makes this number of triple value. We urge that you read the presentation. The other articles are up to the established high standard of the clinic.

PRACTICAL DIETETICS—Alida Frances Pattie. Fourteenth revised edition.

Practical Dietetics is the latest and most authoritative dietetic text issued since the publication of the "Recent Outline of a Course of Study in Dietetics" issued by the American Dietetic Association. Pattie's Teacher's Dietetic Guide—given gratis with "Practical Dietetics"—includes this outline with specific reference to pages in "Practical Dietetics" where replies may be found. "Practical Dietetics" also follows the outline arranged by the National League of Nursing Education.

The theoretical and the practical side of dietetics are so treated as to insure the student's application of theory in practice. Reference to a recipe automatically calls attention to its function in nutrition. Special emphasis has been laid upon the source and value of the A, B and C vitamins and the recipes in general use today.

Collaborators. Professor Mary Swartz Rose of Teacher's College, New York City; Harriet T. Barto, assistant professor of dietetics, University of Illinois; Emma F. Holloway, supervisor of institutional

work and hospital dietetics, Pratt Institute; Fred-
eric W. Howe, director of school and household
science and arts, Pratt Institute, Brooklyn, N. Y.,
have very kindly assisted in the arrangement of
the theoretical portion of the work.

Diet in Disease has been arranged under the per-
sonal supervision of leading members of the medical
profession, each giving diets used in his own highly
specialized field.

The author acknowledges the assistance of such
eminent authorities as Dr. Warren Coleman, Dr.
Elliott P. Joslin, Dr. Frederick M. Allen, Dr. Max
Einhorn, Dr. Herbert S. Carter, Dr. B. Franklin
Stahl, Dr. L. Emmett Holt; Bellevue Hospital, St.
Luke's Hospital, New York; Loomis Sanatorium,
Loomis, New York; Massachusetts General Hospi-
tal, Peter Bent Brigham Hospital, Boston, Mass.

Particular attention has been given to this phase
of dietetics. Diseases best treated by high calory,
salt-free diets, etc., are especially grouped to em-
phasize their importance. Methods of calculating
these diets are also given.

Diets in general use today have been correlated
in Practical Dietetics. It is not necessary to con-
sult other references for these special and popular
diets.

Over two hundred and thirty-eight thousand copies
of Pattee's Practical Dietetics have been sold. It
is revised almost annually, keeping pace with dietetic
advancement. The National League of Nursing
Education, the American Dietetic Association and
all state boards of examiners of nurses recommend
it as a text. It is the text adopted by the United
States and Canadian armies, the United States navy,
medical colleges, the leading hospital training
schools and schools of household arts throughout
the country.

AMERICAN ROENTGEN RAY SOCIETY

Among the forthcoming important meetings of
special societies is the annual convention of the
American Roentgen Ray Society. This is to be held
in Chicago with headquarters at the Congress hotel,
the time of the meeting being from September 18th
to 21st. A number of eminent foreign contributors
will appear on the program, and the announcements
indicate that treatment by high voltage X-ray will
have a prominent place on the program.

DR. W. S. SHIPP

On July 25th, Dr. W. S. Shipp made the supreme
sacrifice and fell at the hands of a crazed drafted
soldier, who had since 1918 nursed a fancied wrong.
A silken flag, the gift of the General George Custer
Post of the American Legion, draped his coffin, and
the accompanying note expressed the sentiment,
"The former service men of Battle Creek feel that
Dr. Shipp paid the last full measure of devotion to
his country, as much as though he had died on the
battle field."

Dr. Shipp was born in Eckford township, Calhoun
county, January 22, 1876, and after attending rural
school there, entered the city school at Marshall.
He finished his preparatory work at Albion College,
where he attained quite a reputation as an athlete.
In September, 1899, he entered the Medical School
of the University of Michigan, where he received
the degree of Doctor of Medicine in 1903. On June
28th, 1905 he married Miss Florence D. Temple of
Tecumseh, Michigan. One son, Robert Temple
Shipp, was born November 10, 1908.

Dr. Shipp had practiced medicine for 19 years and
was past president of the Calhoun County Medical
Society. For several years he was a member of the
State Board of Registration in Medicine. He had
endeared himself to all with whom he came in con-
tact, so that few men were so universally beloved.
He carried cheer into troubled homes, so that many
a heavy burden was made lighter by his presence.

His cheery laugh is missed by all and he leaves
vacant in the hearts of his many friends a place
that can never be filled.

Annual Meeting

GRAND RAPIDS

*September
11, 12 and 13
1923*

*The
Kent County Medical
Society
Cordially Invites
You
to Attend*

Precautions in the Preparation of Digitalis

TWO rigid requirements face the pharmaceutical chemist in making a dependable digitalis preparation. He must first obtain high original potency, and in the second place every precaution must be observed to prevent deterioration of the finished product while on its way from laboratory to patient.

Digitalis leaves should preferably be selected that will run high in glucosidal content. From crude drug assaying 200 per cent U. S. P. standard, a finished tincture fully 150 per cent of U. S. P. strength may be obtained without the need of resorting to the possibly deleterious process of concentration. Furthermore, a defatting of the crude drug will add much to the permanence of the finished product.

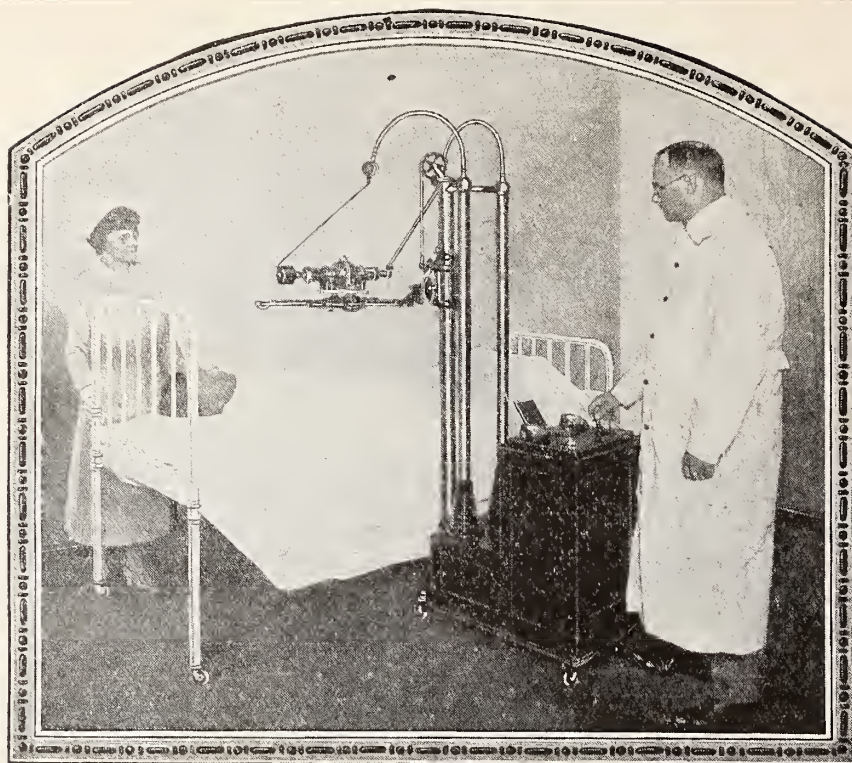
With an active, fat-free tincture thus secured, certain precautions will aid in obviating the deterioration resulting from age, and aggravated by contact with air and sunlight. If placed on the market in small containers, preferably one-ounce in size, the contents of the bottle will in all likelihood be consumed before a marked loss of activity has taken place.

The use of an old product is further guarded against by placing the date of manufacture on the bottle. The destructive action of oxygen may be avoided by displacement of the air in the bottle with inert carbon dioxide. And to render innocuous the actinic rays of sunlight, only amber-colored bottles should be employed.

The finished product must of course be subjected to physiologic standardization by one of the recognized methods, and adjusted if necessary exactly to standard. When these precautions have all been properly observed one may be sure that he has a product of suitable activity and the greatest possible permanence.

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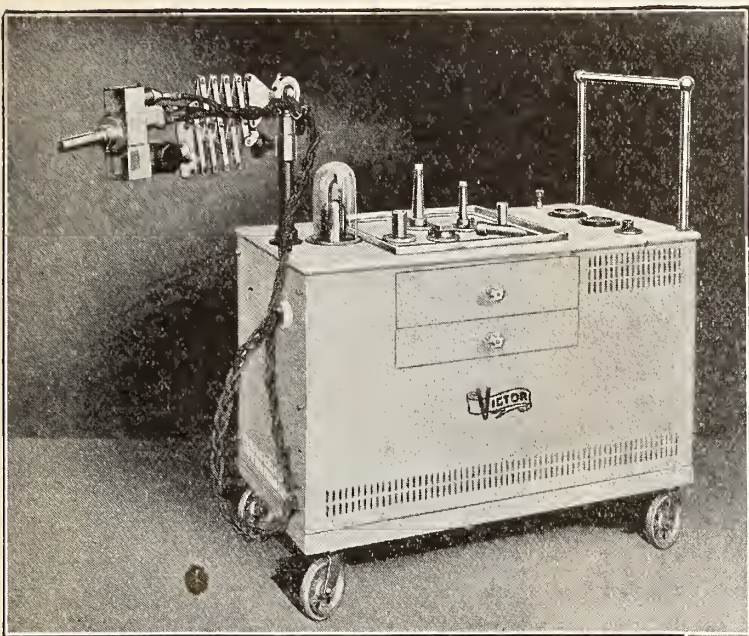
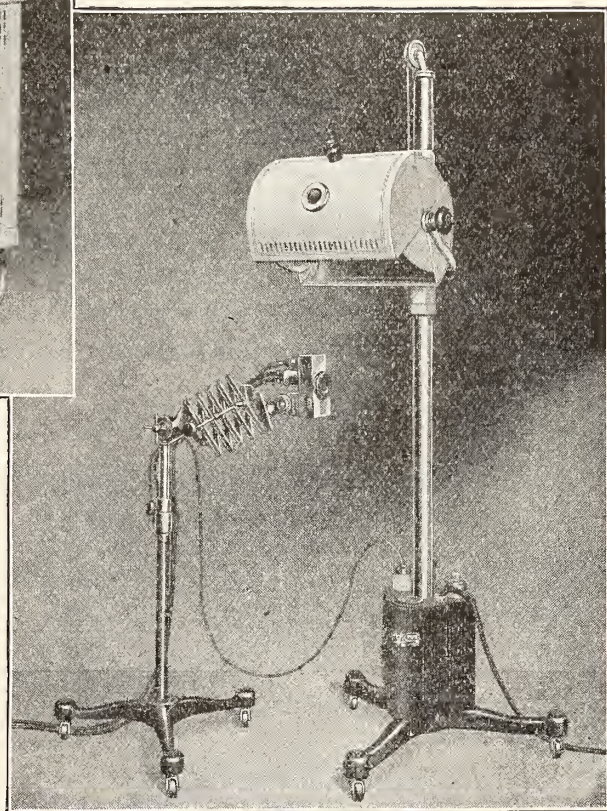
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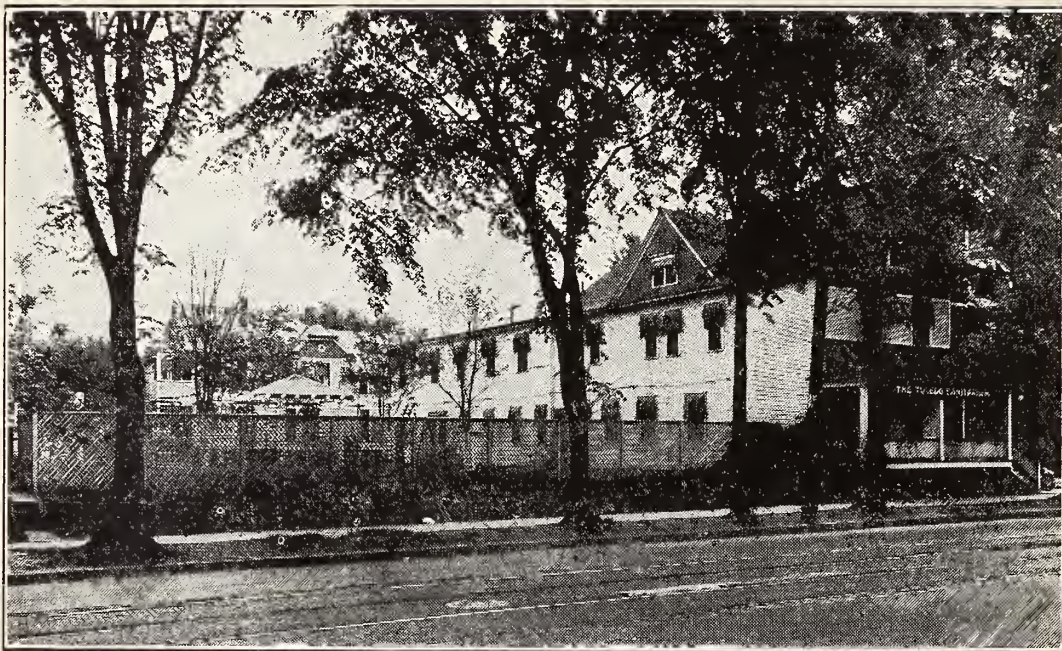
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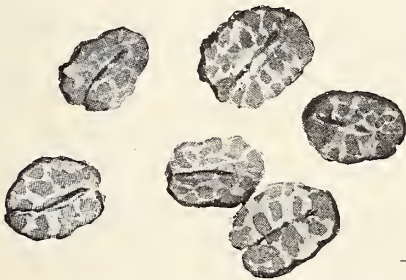
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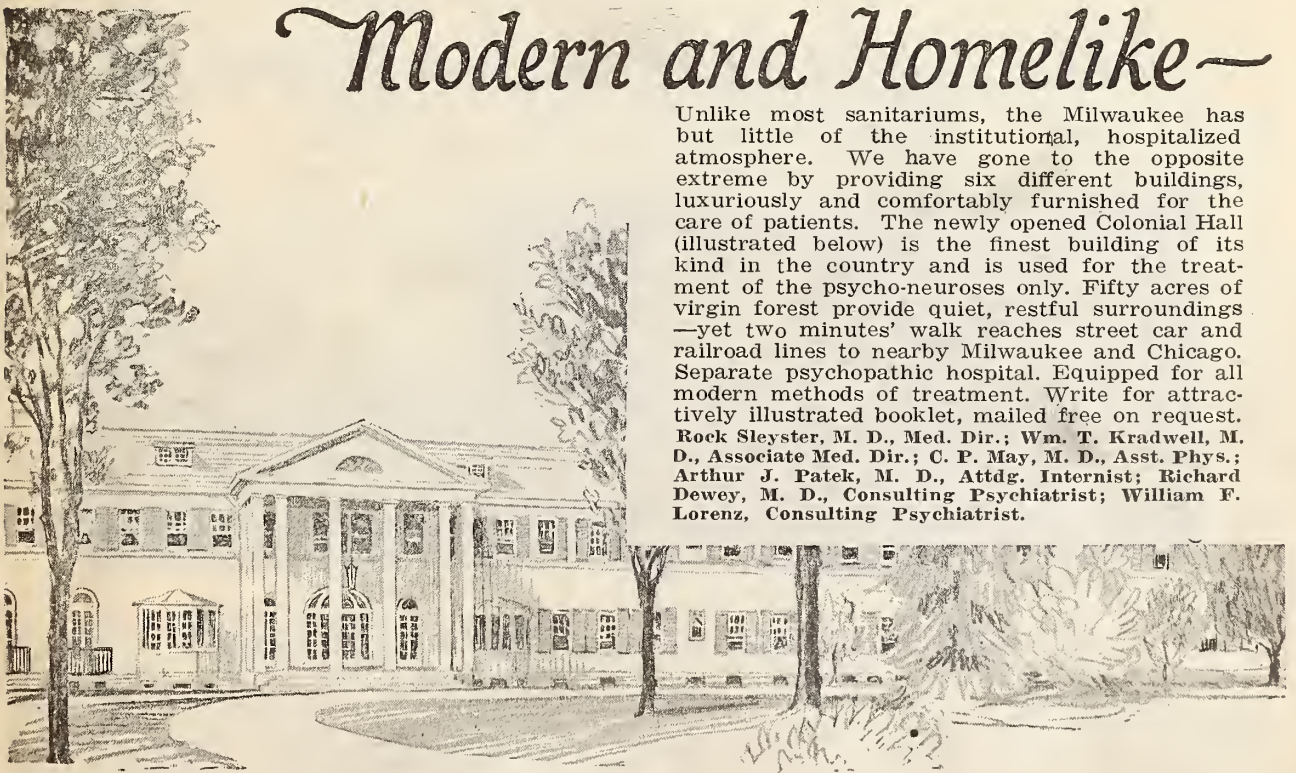
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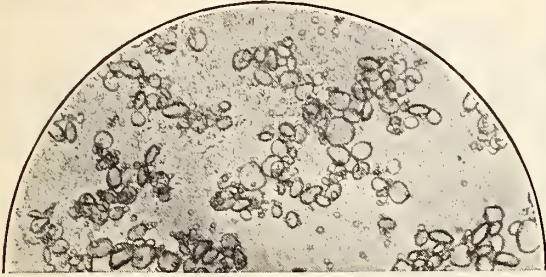
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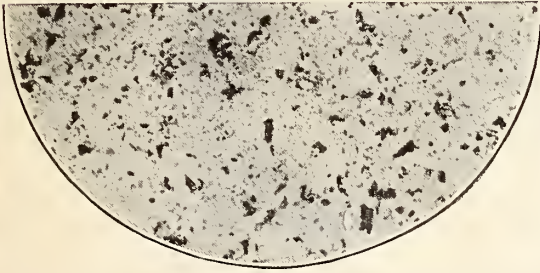
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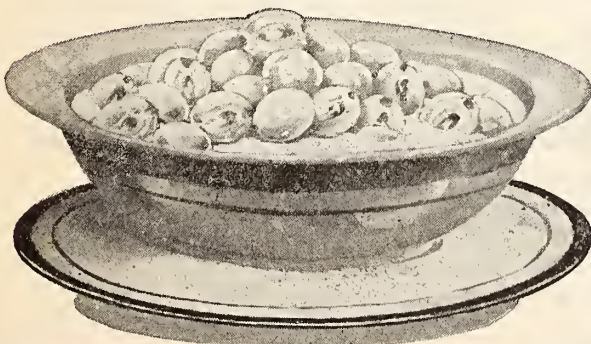
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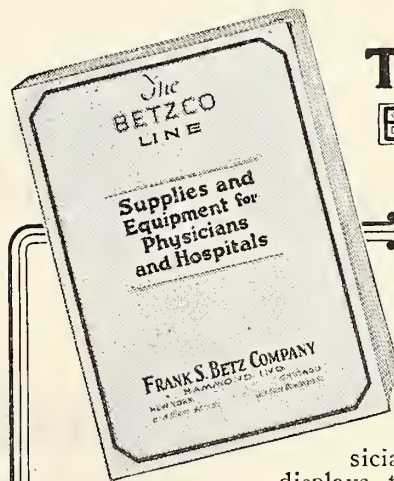
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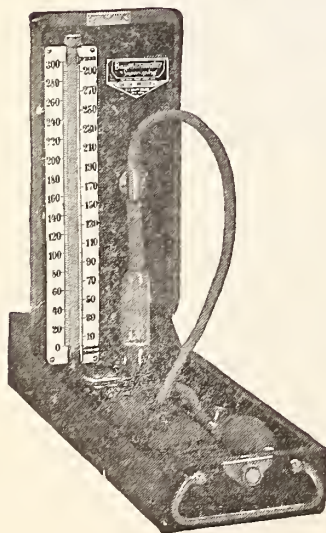
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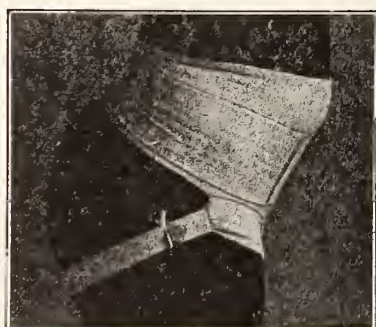
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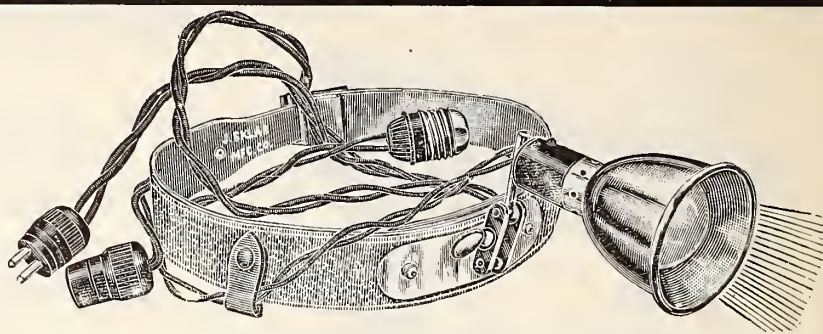
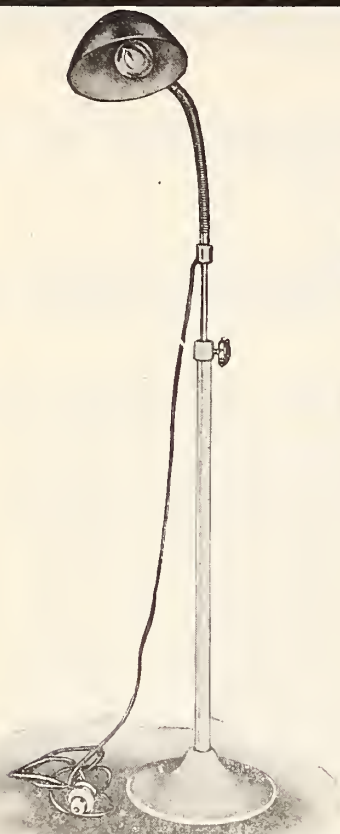
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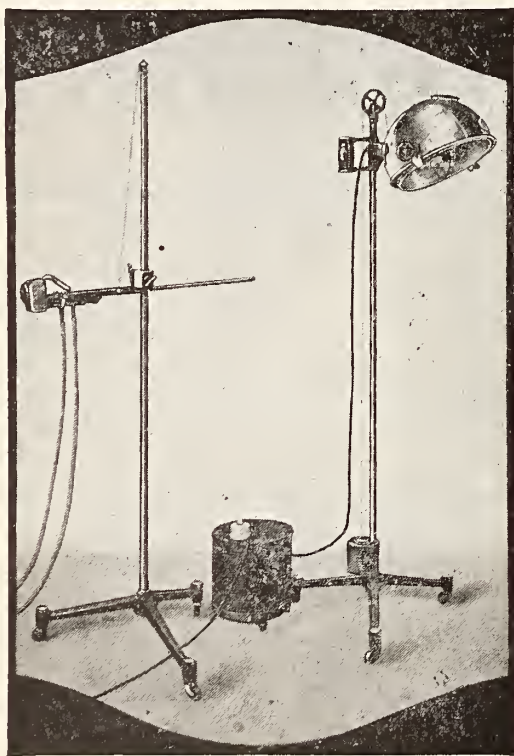
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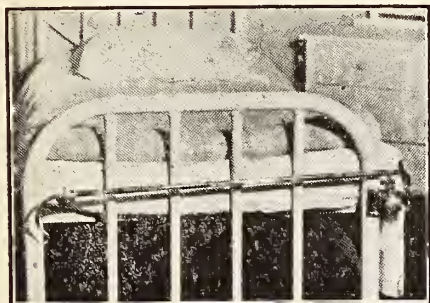
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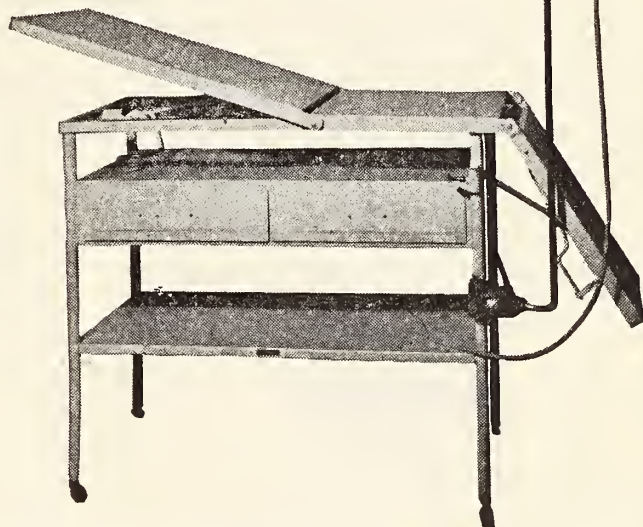
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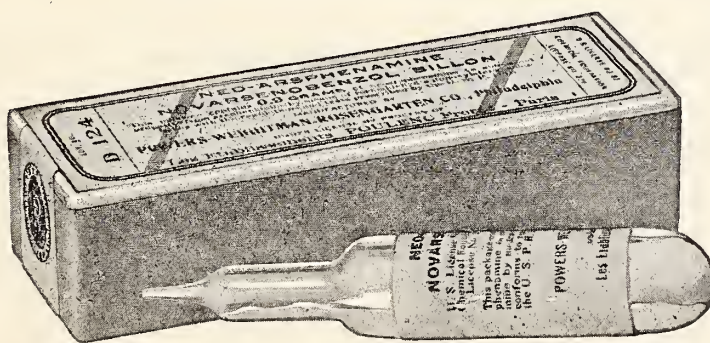
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REMARKS UPON SO-CALLED ARTHRITIS DEFORMANS* (Rheumatoid Arthritis)

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There is probably no disease which is more common and more obscure than the group known widely as Arthritis Deformans. Any review of medical literature shows the great confusion of ideas which has come about through the use of terms which have descriptive significance at times, at other times have a pathological significance. The old term "rheumatic," or "rheumatoid" has been used in the nomenclature so loosely that it is almost impossible to determine just what any individual author is describing. Nevertheless, in spite of all the confusion of terms, a perusal of recorded cases from different parts of the world shows that the disease is quite similar the world over. The more one studies his cases, the more he himself becomes confused by the multiplicity of types.

It is helpful to classify disease, as it serves sometimes to differentiate types which are similar but do not belong to the disease in question. This is demonstrated in the case of arthritis by the separation of gout from the chronic joint diseases. On anatomical grounds, the atrophic form of arthritis was sharply separated from osteo-arthritis by von Volkman many years ago. Since that time these anatomical differences have been recognized universally, but the etiological factors are still a matter of profound obscurity in spite of the great amount of work which has been done in the attempt to clarify the causes of the various forms of chronic arthritis. Some, like McCrae, go so far as to say that all the chronic joint diseases are the result of some low grade bacterial infection. Others do not believe this, but admit that there is at least one type, possibly more, which is the result of infection. Llewellyn Jones avoids the

predicament of classification by the comprehensive, descriptive term Arthritis Deformans.

In spite of the many attempts which have been made to isolate offending bacteria from the joints, no great success has resulted. A variety of bacteria have been described, but the very fact that there have been so many organisms implicated speaks for the lack of knowledge of the real causative agent. It is, however, generally held today that those forms of arthritis which seem to be of infectious nature other than those due to common types of staphylococci, pneumococci, gonococci, tubercle bacillus, etc., are due to toxines elaborated by non-hemolytic types of streptococci.

In order to get a little deeper into the subject, it might be well at this point to define our terms and to give a tentative grouping of the cases as they seem to occur among the patients. A number of classifications have been put forth, which has added to the confusion. For example, Barker, in an article read before the seventeenth International Congress on Medicine, reviews elaborately the whole subject and makes a rather extensive clinical classification. He does this after having classified the disease on anatomical and on X-ray grounds. Ely divides the cases into two groups, type I and type II. Under type I, he would put all the definitely known infections which involve the joint, such as tuberculosis, syphilis, pneumococcus, etc., and would include also the so-called Stills disease (what the English call arthritis deformans in children) and also what he calls rheumatoid (atrophic proliferative) arthritis. Under type II, which he calls the malignant type, he puts all the other forms. This is what the Germans call arthritis deformans, the English call osteo-arthritis, the Americans, led by Goldthwaite, call hypertrophic arthritis. Goldthwaite has probably the simplest classification, although there are sub-groups under each one of his three types. He classifies the various diseases into acute infectious arthritis, atrophic arthritis (arthritis deformans, rheumatoid arthritis), and hypertrophic arthritis (osteo-arthritis). Llewellyn Jones classifies the cases very much like Goldthwaite does, dividing them into; first, rheumatoid arthritis or atrophic arthritis; second, osteo-arthritis or hypertrophic arthritis;

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and third, infective arthritis. However, in his book Jones uses the title "Arthritis Deformans" to include all forms of joint diseases which cause deformity of the joints except those of known bacterial etiology. Many other classifications have been given, which it would be of no value to mention, as it would but confuse the issue. It seems to me that simplicity should always be sought, and that a classification which is as simple as is compatible with the subject, is, for the present, in the inaccurate state of our knowledge, certainly the best. I will, therefore, adopt Goldthwaite's or Jones' classification, dividing them into:

First—Chronic infectious arthritis

- (a) Following upon an acute polyarthritis.
- (b) With gradual onset.
- (c) Still's disease.

Second—Atrophic arthritis (rheumatoid arthritis, arthritis deformans).

- (a) Beginning in childhood, progressive in type.
- (b) Beginning in women about the menopause.

Third—Hypertrophic osteo-arthritis.

- (a) Mono-articular (malum coxae senilis).
- (b) Spondylitis deformans (types Marie-Strumpell, Bechterew).
- (c) Heberden's nodes.

I recognize that this grouping of the cases leaves much to be desired. Study of the case records of patients who have been in the University Hospital reveals the difficulty of placing certain cases in group I or group II. Should the type known as Still's disease be classed as chronic infectious arthritis, or as trophic arthritis beginning in childhood or early adult life? No focus of infection has ever been found which could be said to be the source of the infection, yet the disease with its fever, enlarged spleen and lymph glands could hardly be anything else than an infection with some organism of low virulence. In an analysis of fifty cases which were in the University Hospital during 1922, I found it quite impossible to place some of the cases in the groups here given. After long study of the histories and X-ray plates the cases were grouped as follows:

Group I.—21 cases, of which 2 (ages 14 and 23) were striking and typical examples of the group called Still's disease.

Group II.—15 cases.

Group III.—14 cases.

In group I. there were 12 males and 9 females whose ages ran from 13 to 55 years. In group II. there were 10 females and 5 males, whose ages ran from 25 to 56 years. In group III. there were 9 males and 5 females whose ages ran, males 36 to 63; females, 49 to 78. There were features common to both groups I. and II. In some of the histories the onset was said to be in the knee or ankle. From that be-

ginning other large joints were involved and finally the small joints were affected. Why some had marked deformity and others did not, could not be told from the histories. Lack of accurate description of the hand and finger deformities also rendered quite impossible the definite grouping into types. Then add to this the fact that there are apparent gradations even between the atrophic and hypertrophic forms usually so distinct, and the confusion is great. This is surely an almost unploughed territory and invites intensive working.

The first group might be called the secondary form. It is in this group that the majority of authors believe infection plays the important role. Usually the infection is in some part of the body removed from the joints, what has come to be known as chronic focal infection. The seat of these focal infections may be almost any part of the body, including the teeth, tonsils, accessory nasal sinuses, ears, gall-bladder, appendix, tubes in women, and prostate gland and seminal vesicles in men. Among all these foci of infection it would appear that the tonsils or teeth were more often the sources. In this secondary form the disease often begins as an acute polyarthritis in one or more of the small joints of the hands or feet. It rapidly passes from joint to joint until practically every joint in the body is swollen, slightly hot, faintly pinkish or not, and very painful on motion or palpation. There is fever, sweating and great discomfort. Occasionally there is effusion into one or more joints, although the swelling is characteristically in the periarticular tissues. Striking features which serve to differentiate it from acute rheumatic fever, which it sometimes closely simulates, are early and marked atrophy of the dorsal interossei muscles of the hands, and involvement of the phalangeal joints. Salicylates have no effect on this form, and it is doubtful if the heart or its membranes is ever involved. It may follow at once upon an acute attack of follicular tonsillitis or acute pharyngitis, or it may suddenly occur after a number of attacks of tonsillitis or pharyngitis. Sinus disease and abscessed teeth, or other foci of infection may be causally related to the arthritis. No bacteria have been consistently found, but non-hemolytic streptococci have been isolated from the abscesses at the roots of the teeth, or from tonsils or sinuses, and occasionally observers have found streptococci in the joint fluid obtained by puncture. Rosenow, as all know, claims a specificity for non-hemolytic streptococci, and claims to have produced similar joint lesions in animals to those found in man with organisms grown from various foci, especially from tonsils and apical abscesses. If the disease does not clear up under active treatment, it may become chronic, and deforming changes take place leading to atrophy of the

bone ends and of the cartilages with deformity. Often, however, the process ceases in one joint only to recur from time to time in others, even after the original focus of infection has been removed, indicating, in all probability, local foci around the joints which are incapable of being influenced by treatment. Eventually the process heals itself, the deformities are more marked in some joints than in others, and do not show as a rule, a perfectly symmetrical arrangement.

The other sub-group of this form is probably infectious, although no organisms have ever been found. The disease begins insidiously in one or more joints, usually a wrist or ankle. There is rapid wasting of muscles out of all proportion to the involvement of the joints; there may be more or less pain; there is no redness of the tissues about the swollen joints; there is a low febrile reaction, with enlargement of the spleen and noticeable swelling of the lymph glands. The swellings of the wrist are fusiform in type. The swellings of the knees have a peculiar globular appearance. Very early the temporo-maxillary articulation is involved and often the sterno-clavicular articulation also. The deformities which follow this type are most distressing, resulting in absolute crippling of all joints in the body, with the inability to open the mouth more than a half inch or so, making the taking of food quite difficult. The muscular wasting in this type is profound. Many have thought that the fact that there is so much muscular atrophy occurring so rapidly speaks for involvement of the trophic nerve fibers from a central origin. Some have called attention to the great similarity between this muscular atrophy and that of progressive muscular atrophy, in which it is known that the anterior horn cells are involved. A peculiar segmental distribution of atrophy is frequently seen in the type not quite so severe, which also seems to point toward the primary involvement of the spinal cord. Our absolute ignorance of the true nature of this process stimulates the imagination, but brings us no nearer to facts. My imagination conceives it probable that infection is at the bottom of this, and that the joint symptoms, the spinal cord symptoms, which result in rapid muscular wasting, have the same operating cause. In this group just described I would place the so-called Still's disease, which is not confined as Still originally described it, to children before the second dentition. I am sure we have all seen cases which have had their onset from fourteen to eighteen years of age, or even slightly older. In these cases, although the most careful search is instituted and use is made of all the methods which we have at present, no focus of infection can be found. It is thought by some that this type is of intestinal origin. It is, however, only a

thought, for no one has ever been able to show definitely the relationship between this so-called intestinal toxemia and the development of arthritis. The X-ray changes in these joints are osteoporosis of the bone ends, atrophy of the cartilage, and occasionally slight hypertrophic changes shown by delicate spicules. Further, there is not infrequently a fibrous or true bony ankylosis, and there are also marked subluxations of the joints, deforming them in most bizarre fashion.

The second group might be called also primary, in the sense that we use primary anemia. It is chronic from the beginning; it occurs usually in women under forty; and the early symptoms are often tingling in the soles of the feet, indefinite pains in the arms or legs, sometimes pain in one joint, which may cease only to recur. Gradually the joints of the hands, wrists, feet and larger joints are involved. The skin becomes shiny and smooth, even to the production of the condition known as scleroderma. Contractures of various kinds occur, which in the hands produce the so-called claw-hand, with ulnar deflection. Subluxation of joints is frequent, so that the deformity may be great enough to preclude all possibility of use of the hands. Occasionally scleroderma precedes the arthritis, particularly the form known as sclerodactylia. There is sometimes marked atrophy of the muscles in this form; again the muscles are not so wasted. All the large joints are apt to be increased in size, the wrists show typical fusiform swellings, which show no bony outgrowth, but are the result of periarticular thickening. X-ray films of such joints show a very similar picture to the first group, although the proliferative changes do not seem to be quite so common. In the wrist joints there is a peculiar appearance of the bones as if they were crowded together, what the Boston school calls "telescoping of the joint."

A second sub-group of this form I have only seen in women near or following the menopause. There is considerable pain in one or more joints, rapid disablement of the individual, without, however, the peculiar muscular wasting, although there is general loss of weight. The skin over the joints is flabby, the tissues feel mushy, walking is impossible on account of pain and weakness, the hands are distinctly weak, and yet the patients may be able to do fine needle work. Certain of the joints become subluxated, others are definitely swollen, but there is not the marked deformity seen in the cases of the first sub-group. Further, there is no fever or enlargement of the spleen, and the case is hopelessly progressive from the beginning. Patients can often not turn over in bed alone on account of both pain and inability to move the legs, but when placed in a wheel chair they may be able to sit there fairly comfortably

for hours at a time. This sub-group, I should say, is not very common. Whether or not this group is the result of some low-grade infection it is impossible to say. The same thing may be said about this group as about the previous group; namely, that it may be due to a poison elaborated in the intestines. This, however, is purely conjectural. If we consider this group as some metabolic disturbance arising from some unknown intestinal condition, we may then consider this group to be due to infection. Eventually I believe we shall find that this group has some such cause. One peculiar feature of all the cases of chronic joint disease of the two forms briefly outlined above is the definite lowered sugar tolerance to oral administration of glucose. It is found in both groups and apparently is not found in cases of acute or chronic rheumatic fever. Pemberton lays great stress on this reaction and suggests diet low in carbohydrate as a logical procedure. Many case reports are now available for study, but analysis of them does not convince me that Pemberton is entirely correct.

The third group, the hypertrophic group, seems not to be the result of infection, although there is some difference of opinion, some maintaining that it is the result of a low grade infection from some focus somewhere in the body. However, it more often occurs in healthy people, in men more often than in women, and trauma seems to have some place in the causation. Changes in the bones and cartilages are quite different from those of the other groups. It would seem to be primarily a cartilaginous change, secondarily involving the synovial membranes, producing eventually atrophy of the cartilages in the centers with new bone formation and eburnation of the joint surfaces, with hypertrophy of cartilage and deposition of bone at the edges of the joints. These serve to limit the motion of the joints, but rarely is true ankylosis found. It is said by Jones, for example, that bony ankylosis never occurs in this type. I have X-ray photographs, however, which certainly show bony ankylosis, and which I could not say belong to any other than this particular type of arthritis. I am sure that the bald statement that ankylosis never occurs is not correct. Changes in the knee joints indistinguishable by the X-ray from changes in hypertrophic arthritis are found in people, particularly women, who later in life become obese. Here it would appear that constant irritation can produce hypertrophic changes around the cartilages of the joints. In the spine the vertebrae are attacked, and forms have been separated based upon the part of the vertebral column which is involved. It seems, however, that this distinction is purely arbitrary. The process may be insidious, with gradual stiffening of the whole spine, with bony outgrowth, and, in some

instances, actual calcification of the spinal ligaments, producing a rigid bony column from the occiput to the coccyx. The sacro-iliac and hip joints are apt to be involved in this process, especially if the process begins in the lower spine. There is no fever; the progress is a gradual one, lasting over many years. It may occur without any pain, or there may be considerable pain in the back and down the legs. In the form in which one joint is involved in the first sub-group it is usually the hip. The third sub-group, characterized by peculiar bony outgrowths upon the distal ends of the second phalanges of the hands and feet, known as Heberden's nodes, I think should be placed in this group of hypertrophic arthritis. Often this is the only bony change found and, except that it produces slight clumsiness in the use of the fingers, is not accompanied by pain or other disability.

TREATMENT

After all, we may squabble among ourselves as to the groups and causes of the various groups of chronic joint disease, but this does not interest the patient who comes to us for relief. He wants to know, not what our classification is, but what we can do to relieve him of his disease and make him well. I think we must all confess to a feeling of inadequacy when we come face to face with the treatment of one of these types of chronic arthritis. However, I do not believe that we should feel so hopeless. It seems to me that we can do a great deal for these afflicted people. First and foremost, we should make a diagnosis as early as possible and start treatment, not half-heartedly, but with the idea that if we do not treat them intensively we shall get nowhere. In the cases frankly the result of infection, as in the first group, the procedure would be as follows:

Remove foci of infection at once; immobilize joints that are inflamed; use actinotherapy and dry heat. As the joints improve, Bier's hyperemia is at times valuable. I have found that cinchophen relieves the pain much better than any other drug, except, of course, morphine or codein. I prefer not to give morphine unless it is absolutely essential. I believe it is advisable also to push fluids and to give sodium bicarbonate. I have no scientific reason for this, but it does seem to assist in relieving the condition. Codliver oil is given as a routine to the infectious and atrophic cases. The patient should be fed nutritious food of any kind. Buttermilk made with the *B. Bulgaricus* has seemed to me to help materially the cases of the first and second groups. The change in the intestinal flora produced by feeding large quantities of this lactic acid producing organism may account for its therapeutic value. Its true action is unknown. The beneficial result is often, however, very striking. Even if there is fever I do

not limit types of food except those which are frankly indigestible and are not to the patient's taste. Under this regime I have seen cases markedly improve.

When we come to treat the cases in which no focus of infection whatsoever can be found and there is fever, I believe the first and most essential part of the treatment is absolute rest in bed. The patients are so apt to think that they should walk around and exercise the joints that it is difficult to keep them in bed. A highly nourishing diet, including Bulgarian buttermilk, massage of the muscles, with only slight rubbing of the joints, actinotherapy, Bier's hyperemia, and dry heat, in my experience, have given some results. Every effort should be made to prevent contracture deformities. I am aware that some have used thymus gland preparations, and other organ preparations, and have claimed to get results. I have seen one case of arthritis with generalized scleroderma in a young woman who seemed to be benefited by doses of thyroid extract, but the case was so hopeless when it came under our observation that little could be done to help her. In the early stages, however, I think thyroid might be tried. When the cases are seen in their chronic crippling forms, especially those types in which there is no evident infection, the same treatment is given; that is to say, treatment by massage, dry heat, etc. For the chronic forms who are in a good state of nutrition a sojourn at one of the spas, whether it be hot water or hot mud, seems to relieve the condition. One form of treatment, which has been used and which I, myself, use extensively, is the non-specific protein therapy. I have used, for the most part, typhoid vaccine, but I can not say that I have ever seen a case permanently benefited by the treatment. It is possible that if we saw the cases earlier the leukocytosis produced by the injection might be a factor in combatting the low grade infection. It has not been my fortune to see very early cases. While temporary benefit has resulted from the injections in the chronic cases, so that patients unable to use their joints before the injection move them around freely the day following the injection, the good result has not been more than temporary. The greatest number of injections which I have given to any one individual was twelve. Every time there was a violent reaction and slight improvement within 48 hours, but after two or three days the condition was the same as before. For the hypertrophic forms heat in all forms seems particularly helpful, and I have seen lessened pain and increased motion follow long continued use of Bier's hyperemia. However, when bony changes have taken place it is impossible to bring the parts back to their original condition, and the best we can hope to do is to give symptomatic relief. In many cases

of all types in which there are great deformities, orthopedic treatment can straighten out the joints and sometimes by operation in the mono-articular forms enable the patients to get around again with some degree of comfort. In the cases of spondylitis, orthopedic jackets often give great relief.

Finally, as I have said above, I do not feel absolutely hopeless when I see one of these patients. I am convinced that, if we do not use all the means of which we know to relieve these afflicted individuals, we shall find them drifting, as we have already found them drifting, into the hands of the various quacks, and sometimes, to our utter astonishment and to our shame, the quacks give them a great deal of relief, which we should have given them. We should not view with disdain forms of mechanotherapy. Our superstitious loyalty to drugs has caused us to lose sight of the fact that treatment of disease is any method which will help the patient to rid himself of his disease. First let us be sure we know what disease we are treating, then let us not only treat the disease by any means at our command, but let us not neglect to treat the patient who has the disease. If we steadfastly bear these fundamentals in mind we shall be more successful in the treatment of the chronic arthritides.

NOTE—For an excellent review of the history of arthritis, see L. F. Barker's "Differentiation of the Diseases Included Under Chronic Arthritis," 17th International Congress of Medicine, London, 1913.

THE DIAGNOSTIC VALUE OF THE X-RAY IN OBSTETRICS*

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The object of this paper is to predicate the fact that the X-ray is of real value as a diagnostic aid in obstetrics, and to urge upon general practitioners who in this state are doing a large share of the obstetrical work to avail themselves of this valuable adjuvant. We desire also to recommend a greater collaboration with the roentgenologist, for it is only by co-operation between the obstetrician and the roentgenologist that effective work can be developed in this comparatively new field of research.

The history of the development of the X-ray in regard to the foetus in utero extends over a period of about a quarter of a century. Mullerheim of Leipsic, in 1899, is credited with being the first person to show successful roentgenograms of the foetus in utero. In 1903 Sjorgren of Sweden differentiated for the first time between normal and extra uterine preg-

*Read before the Section in Gynecology and Obstetrics, Annual Meeting of the Michigan State Medical Society, Grand Rapids, Mich., Sept. 13, 1923.

nancy. In 1912 O'Donnell of Chicago made the statement that a diagnosis of pregnancy could be made by X-ray as early as the fourth month. McLean and Hickey of Detroit in 1911 diagnosed pregnancy in a very fleshy woman who weighed 250 pounds. Case of Battle Creek in 1916 successfully diagnosed a case of anencephaly before birth. McKenzie in 1918 attempted pelvic measurements by the use of the X-ray and was partly successful. Prior to this time one of the writers collaborated with a roentgenologist with the hope of accomplishing something positive in determining the actual size of the pelvis by the X-ray, but without success. The work of Warnekros in Berlin, and Weibel in Vienna in 1918, has been revolutionary. Working contemporaneously they demonstrated how the placenta separates from the uterine wall during the third stage of labor, and by injecting an opaque substance into the umbilical vein after severing the cord they were able to demonstrate that the placenta commences to separate from the uterine wall just as soon as the second stage of labor is completed. Edling, who has had a large experience in roentgenology of the foetus, states that it is possible to obtain good roentgenograms as early as the third month, while Kuegle goes so far as to state that at this age the two femora, the umbilical cord and even the placental attachment may be clearly shown. The above statements, according to our experience, are unbelievable. In a recent personal communication from five of the leading roentgenologists in this country, no claim was made that a positive diagnosis of pregnancy could be made by the X-ray before four and one-half months. Peterson states that by the X-ray pneumo-peritoneum method a diagnosis of pregnancy can be made from the sixth to the tenth week.

The difficult part of obtaining satisfactory photographs of the foetus in utero are numerous. The foetus is a movable body and the picture must be taken with the object some distance from the plate. The abdominal wall and the bony parts of the pelvis make this work very difficult; furthermore, it is difficult for the pregnant woman, when the pregnancy is advanced, to assume the proper positions necessary to obtain a good picture, and it is almost impossible for the pregnant woman, especially when she is nearing full term, to hold her breath, which is so necessary in this work. The Potter-Buckley diaphragm has been of great benefit and recently a superspeed film has facilitated this work.

It seems to us that the greatest value of the X-ray as a diagnostic aid in obstetrics is in the determination of abnormalities, such as anencephaly, hydrocephaly, multiple pregnancy, pseudocyesis, deformities and growths of the bony pelvis, and especially in the detection of

the finer defects which produce foetal and maternal dystocias which are unrecognizable by any other method.

It is timely, however, to accentuate the thought that one must not lose sight of the well recognized text book methods for the diagnosis of pregnancy. These elementary signs are too frequently forgotten and we are constantly surprised that ordinary normal pregnancy is so frequently mistaken for other conditions, even when it is sometimes quite far advanced, and as our experience and observation increase we are more and more convinced that the average physician is not as keen in the diagnosis of pregnancy as he should be. Normal pregnancy can almost invariably be diagnosed by a careful physical examination before it can be demonstrated by the X-ray, notwithstanding the statement of Stein and Arens that roentgenography of the foetal skeleton is the only positive sign of pregnancy possibly obtainable before quickening.

The following case reports from an ordinary obstetrical service have proven to ourselves the value of the X-ray in obstetrical diagnosis, and we reiterate that the attention of the profession should be called to the fact that in obstetrics the X-ray as a diagnostic agent is of extreme value, and furthermore, that by its general and judicious use the lives of many mothers and babies may be saved annually.

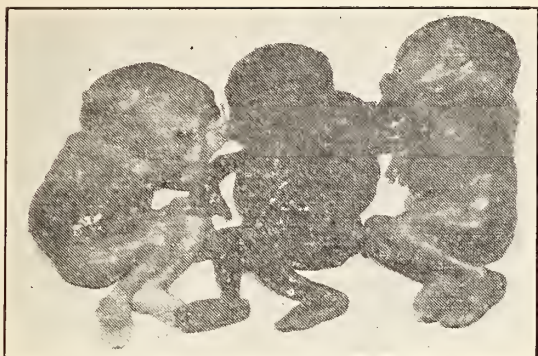
We are using it as a routine in every case where we have reasons to suspect any abnormality. The following brief case reports of a few of the abnormalities we have been able to diagnose by the use of the X-ray may be of interest.

CASE REPORTS

Case 1. Ten days before expectant time of delivery we made a diagnosis of breech presentation in a multipara, which was verified by roentgenogram. By the time that labor commenced the child had assumed a normal anterior position and was so delivered without incident.

Case 2. We saw in consultation a child 13 years of age in which the attending physician had made a diagnosis of pregnancy about the fifth month. The innocence of the child and its parents as to even a possibility of exposure made it seem almost unbelievable, but the tumor which this child presented was that of pregnancy. The diagnosis was absolutely clinched by a foetal roentgenogram and this child was delivered by abdominal section at full term without ever knowing the nature of her condition.

Case 3. A case of hydramnion with triplets in which a diagnosis was made from the X-ray by foetal roentgenogram. A short time after the roentgenogram was obtained the mother went into labor and gave birth to three small triplets which, according to the history, were about seven months advanced. The film in this case showed three circles, each about 5 centimeters in diameter, which was the only evidence of skeletal development, but which indicated three heads by which a diagnosis of triplets was made.



Triplets with Hydrops.
Diagnosis at six months by X-ray.
Patient mis-carried at six and one-half months.

Case 4. Twin pregnancy positively diagnosed by the fifth month. Three weeks before expected time of delivery, patient consulted us because she felt very little foetal movement. Auscultation by head stethoscope demonstrated distinctly one foetal heart beating 160 times a minute. Three days later no foetal heart could be heard and no movement could be demonstrated. Three days later foetal roentgenogram was made showing that the fetuses had grown in a normal manner as compared to the roentgenogram taken three months before. The later film, however, showed a slight overriding of the parietal bones and a slight irregularity in the shape of the skulls. This irregularity in the skull, according to Spaulding of San Francisco, who has reported a few similar cases, is a positive sign of death of the foetus in the utero, and if it is a fact, as Spaulding states, that these changes occur after the death of the foetus in utero, and if it is a fact that they can be recognized by roentgenography, the value of this observation is obvious.

Case 5. Case of anencephaly (Case report accepted for publication, American Journal of Obstetrics and

Gynecology, August, 1923), in which a probable diagnosis was made by physical examination, positively verified by a very clear roentgenogram. Patient had gone two weeks overtime and since positive diagnosis was made by the X-ray, labor was induced by an introduction of a Voorheis bag and an anencephalic monster was born which lived six hours. At the present time this same woman is six months pregnant and we have a foetal roentgenogram which shows distinctly that the child has an apparently normal skull formation which was observed before the fifth month.

Case 6. Patient in Blodgett Hospital in which a Cesarean section was performed this morning, the woman is 30 years of age, and five years ago lost her first baby by instrumental delivery. Foetal roentgenogram showed a good sized child, no skeletal deformity, cephalic presentation, head floating, right occipital posterior position. This patient's pelvic measurements showed a moderately contracted pelvis. The patient having gone two weeks overtime, was hospitalized, given castor oil and quinine on two different occasions in an attempt to induce labor. Inasmuch as she was extremely anxious to give birth to a living child and inasmuch as she had a small pelvis, the space between the Ischial tuberosities also being narrow, and inasmuch as the roentgenogram showed a good sized child with floating head, and in consideration of the fact that with a similar history five years ago she had lost her first child, and inasmuch as two attempts had been made to induct labor, a Cesarean section was performed. She was delivered of an eight-pound baby with a large head even larger than one would be led to believe from the appearance of the roentgenograph. In this case we feel that the X-ray was of considerable diagnostic value.

Recently we have noticed some literature which indicated that there is danger even in a single irradiation of the foetus for diagnostic purposes. Malformation, cases of arrested developments and even imbecility have been charged to the effects of diagnostic irradiation. While the idea of this unfavorable influence of the X-ray was not new to us we sent a questionnaire to five of the leading roentgenologists in this country and received replies from all of them, in which they all agreed that with proper technique they considered roentgenology of the foetus devoid of any danger whatever. However, we deem it timely to suggest that these examinations be limited, owing to the possibility of developmental defects. In a personal communication from Dr. Preston M. Hickey, professor of roentgenology in the University of Michigan, he states that they have estimated that the exposure in a diagnostic roentgenogram of the foetus equals about 2/7 of the therapeutic thymic dosage used for infants in the first 48 hours of life, and from this, thinks that it would be impossible to do any harm to the lymphoid tissues of the foetus in utero.

One of the advantages of roentgenography of the foetus is that one can, to a great extent, allay the anxieties from which so many expectant mothers suffer as to the possible condition of the child, and it is obvious that any measure that will improve the mental attitude and morale of the mother is of value.



Anencephaly.
Diagnosis by X-ray before induction of labor.

Our experience in this work has taught us that the expectant mother is very willing to submit to the X-ray for diagnosis, and appreciates the interest which is taken in her case, whether the results from roentgenography as to the findings are favorable or unfavorable.

The possibilities of future development in foetal roentgenography are interesting. We can see how it may become of great value in adding to the interest of the study of obstetrics in teaching medical students and nurses. We believe that it may be possible with increasing experience and improvement in apparatus and technique to visualize the various stages of labor, and it may be that in the near future the various manipulations incident to labor, as for example, version both external and internal and delivery by forceps may be done under the fluoroscope. Undoubtedly with continued progress in this work and with proper collaboration between the obstetrician and the roentgenologist many of the finer defects which produce dystocia and which are being overlooked at the present time will be recognized and this information will help to decide the safest method of delivery in many borderline cases which at the present time present some of the most difficult problems for solution that are to be met in any field of medical or surgical work.

SUMMARY

1. The X-ray is a valuable diagnostic aid in obstetrics.
2. There should be greater collaboration between the obstetrician and the roentgenologist.
3. The chief value of roentgenography in obstetrics is in the determination of abnormalities.
4. There seems to be no danger to the foetus in a diagnostic irradiation under proper technique, but we advise against repeating it any oftener than is necessary.

DISCUSSION

DR. P. M. HICKEY, Ann Arbor: The first thing I will do is to take issue with Dr. Campbell on one little thing. He said it was necessary to interest the X-ray man in the question of obstetrics. My problem has always been to interest the obstetrician in Roentgenology. I read a paper some years ago on that topic and some years later Dr. Judd of Detroit, and I, did some work on it, but the average obstetrician only took an interest in Roentgenology when he had a patient so fat that he could not make a bimanual examination. Then he turned the patient over to the X-ray man.

Another very interesting point is the question of differential diagnosis between dermoid cysts and pregnancy. That has been made a number of times because in pregnancy you get the definite bony structures, whereas in the dermoid cysts, if there are teeth you can get definite shadows which will give you the exact diagnosis. In one case an operator telephoned me in great perturbation saying that he could only find six instead of seven of the teeth I spoke of in the ovarian cyst.

In speaking of the Bucky diaphragm, I wish you would refer to it as the Potter-Bucky diaphragm. Bucky made a diaphragm some years ago which left such marked streaks that it was of little value, while Potter of Chicago got up a modified diaphragm which was a great improvement and we always like to speak of this as the Potter-Bucky and give credit where credit is due whenever possible. This enables us to ray the deeper parts of the body and get detail which before its development it was impossible to do. The film which permits an exposure of two or two and a half seconds has also greatly simplified the work.

Dr. Peterson of Ann Arbor, has been much interested in the value of the X-ray in obstetrics and we have been glad to co-operate with him in his work. Dr. Peterson is interested not only in the question of such cases as Dr. Campbell mentioned, but also from the standpoint of teaching. If you take a picture of a case just about to undergo delivery and can put up that picture so that the students can see the position of the infant just a few hours before birth, I think that makes the interest much greater. Furthermore, we have made plates during delivery by taking a portable machine and putting it in the delivery room. One case was rather striking as it showed the passage through the os. The positions we have found most advantageous are the postero-anterior position, the woman lying on her belly. We have also used the antero-posterior and the posterior positions. We have been able to get stereoscopic plates of these cases and it adds much to be able to look at them in this way. We were favored by a visit from Professor Edling of Lund, Sweden, who has been working on this problem for years. He had a number of plates and a number of sets of twins, two of triplets, and a number of monstrosities which he had demonstrated by means of the X-ray.

I fully agree with Dr. Campbell that it seems to be a great satisfaction to patients to have a demonstration made to them before delivery of a normal foetus. If they can be assured that there is no malformation of the foetus as shown by the photograph they are perfectly willing to assume the financial aspects of the case and have the examination made.

With regard to the danger of using the roentgenogram in obstetrical problems, I wish to emphasize what has been said—that so far as we know there is no danger. With a formed foetus I do not see how you can change the structure by a short exposure with the X-ray. Theoretically that is not possible. We figured up the amount of dosage which the child gets in four plates and we figured that the foetus would get 2/7 of the dose which we give to the new-born children who are given thymic treatment, as many of our children are rayed after delivery to determine whether an enlargement of the thymus is present. If so, we give a certain dosage of the ray and the dosage given to children 24 hours old is seven times that which they would receive in utero.

DR. E. D. PLASS, Detroit: I wish to know whether there has been any intrauterine diagnosis of the bone lesions in children of syphilitic parents. I have never seen anything of this kind, but in post-natal plates you are able to get a perfectly definite shadow and I wondered if anything had been worked out in a prenatal way.

DR. A. M. CAMPBELL, Grand Rapids, (closing): I wish to thank Dr. Hickey for his discussion and in reply to Dr. Plass, will say that we have had no personal experience with the demonstration of the bone lesions of syphilis.

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A CITY PROGRAM FOR THE CONTROL OF TUBERCULOSIS*,

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The rapid reduction in the death rate from tuberculosis during the past decade is undoubtedly due in a large measure to the various forms of anti-tuberculosis activities, including the progress made in sanitary reforms, improvement in the social wellbeing of the people at large, and to the untiring efforts of the various organizations purposely established.

In New York City the death rate from tuberculosis dropped 51 per cent during the past ten years. In the United States registration area it dropped 43 per cent, and in Detroit it dropped 28 per cent. In Rio Janeiro, a city of approximately 1,000,000 population, the death rate from tuberculosis in 1921 was 377 per 100,000, which was three times higher than that in New York City, and four times higher than that in Detroit. This is an enormous mortality and is undoubtedly due to the lack of any form of anti-tuberculosis work.

This comparative information clearly demonstrates the necessity for further intensive work against the disease in order to increase the reduction of the mortality which is still appallingly high.

In order to measure the scope of the tuberculosis problem in any given city it is necessary to obtain the approximate number of tuberculous individuals. This, of course, is a difficult matter and is a process of estimation only. The death rate from tuberculosis is the most accurate fact that is known about the disease and therefore the method of estimating the tuberculosis problem must be based on the death rate. If the number of tuberculosis deaths is multiplied by some "factor" the approximate number of living cases will be known. There

are three crude factors now in common use, 3, 5 and 10. The factor 3 multiplied by the number of deaths was discovered by Dr. Newsholm of Brighton, England, and comprises the number of active cases. His work covers 25 years of compilation. The factor 5 multiplied by the number of deaths is the method of Dr. Biggs, the late health commissioner of the state of New York, and comprises the number of tuberculous individuals, including the non-infectious forms. His work covers approximately 25 years of compilation from New York city clinics. The factor 10 was developed by Dr. Phillip of Edinburg and covers all forms of tuberculosis requiring treatment. Recently in Chicago an experiment was conducted whereby 165,000 individuals out of a section of 300,000 population were examined and 1,000 positive sputum cases were discovered. This gives a ratio of 1 to 165, which is approximately equal to the Biggs factor.

After ascertaining the estimated number of tuberculous individuals in a given community it is interesting to know the degree of indigency associated with the disease. Among varied definitions of the word "indigent" the National Committee on Indigent Migratory Consumptives define the term as a person who does not finance himself completely during the period of his care. Some persons need only free medical and nursing care, others are in need of temporary aid, while many are dependent almost upon the community for their living and care.

Mr. J. S. Whitney, statistician of the National Tuberculosis Association, reports that a total of 7,319 tuberculous individuals in six cities of the southwest portion of the United States were cared for wholly or in part by municipal agencies. This meant approximately one indigent tuberculous person to every 155 of the entire population of the six cities. For example, Phoenix, with a population of 29,000, has the greatest number of indigent tuberculous persons, viz.: 1 to 58 of the population. Colorado Springs has 1 to 78; El Paso, 1 to 71; Denver, 1 to 156; Los Angeles, 1 to 186, and San Antonio, 1 to 264. Using Cleveland as a control, 3,443 tuberculous individuals were cared for during 1921, or 1 tuberculous person to every 231 of the population.

It would seem from these figures that the smaller the city, the greater the burden, and that apparently some organized force is necessary to approach this problem. Is it then a problem for the general practitioner to burden himself with the individual cases as they arise, or are philanthropic agencies the most successful in the combat of the burden? There are numerous private agencies which are doing splendid work in anti-tuberculosis activities, but it is usually due to lack of funds which pre-

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vents the effectiveness of a thorough and successful campaign against the disease. A state control of the larger cities within its bounds is ineffective, due to the magnitude of the problem and insufficient funds.

Assuming, therefore, that a fairly large degree of indigency is associated with tuberculosis and that a considerable amount of relief is necessary in order to carry on a successful treatment which is of necessity prolonged, it would seem that municipalities should become more active in anti-tuberculosis work.

During a recent survey made by the American Public Health Association of anti-tuberculosis activities in the various cities of the United States, it was found that 13 cities out of 83 studied, conduct anti-tuberculosis work through a special bureau by the Municipal Health Department. A special fund is stipulated from the budgetary allotment and is utilized specially for anti-tuberculosis work.

The personnel of such a bureau should then be organized consisting of a full time director, preferably a physician, supplemented by part time physicians, one for every 100,000 population. The nursing staff should consist of three nurses for every 100,000 population, and a sufficient number of clerks to keep accurate records.

The city is then divided into districts allowing approximately 250,000 population for each district with a dispensary in each. Each dispensary should have a part time examiner and a sufficient number of field nurses. It should be equipped with clinic supplies and a complete set of records affiliating with the main dispensary. Clinic periods should be held in accordance with the demand usually from four to six periods per week, with a duration of two hours per period.

The sources through which patients come to the dispensaries are as follows: Reference made from general hospitals, through voluntary appearance, references made by physicians for diagnosis and hospitalization, through follow up work by the field nurses, through landlords and citizen reports, and through charitable societies.

The routine procedure on entrance of the patient to the dispensary should include a complete history, including the present illness, past illnesses, social, family and economic history, tuberculosis exposure, normal and present weights, temperature and pulse rate. The details can be ascertained by the nurse and recorded on the chart. The patient then undergoes a physical examination. If a diagnosis cannot be established on the first examination a period of observation is prescribed for further clinical evidence.

The functions of the dispensary are:

1. The establishing of accurate and early diagnoses.

2. The disposition of the patient.
3. The supervision and instruction of patients through the field nurses.
4. Visits to the homes of tuberculous individuals for the purpose of correcting unhygienic conditions and the protection of children in the home.
5. The selection of patients for the hospital and sanatorium.
6. The selection of exposed children for the open air schools.
7. The periodic examinations and follow up work of post sanatorium patients.
8. The home treatment of patients who do not enter the sanatorium.
9. The proper disposition of migratory patients who are not eligible for city care.
10. The use of the dispensary by private physicians for diagnostic purposes of early cases.

Similar to this plan we are conducting the work in the city of Detroit and during the year 1922 our budgetary allotment was approximately \$56,000. Our personnel consists of one full time physician, seven assistant physicians employed as part time, twenty-one nurses and four clerks. Our total dispensary attendance was 23,083; number of new patients admitted was 5,660, made up of incipient tuberculosis 375, moderately advanced cases 592, advanced cases 224, exposures and observation cases 401, undiagnosed cases 2,775, undiagnosed exposures 1,183, individuals with no evidence of tuberculosis, 110. In the home treatment division 134 advanced cases were treated and relief given. One thousand two hundred and eight patients were hospitalized, of whom 523 entered the city hospital as advanced and moderately advanced cases, 616 entered the sanatorium and 69 were placed in the county hospital as county charges.

In order to derive the best results in a campaign against tuberculosis in a given community, three salient factors stand out as essential, viz.: First, the proper care and isolation of the open cases because it is only through such care that the patient can recover and further, because by such means a large percentage will cease to expel tubercle bacilli, which, after all, is the greatest aid in the prevention of the disease; second, the prevention of the spread of the disease by proper disposal of sputum and proper handling of everything coming in contact with positive sputum individuals; third, to keep the well well by the maintenance of a high resistance.

Theoretically, in any program for the control of tuberculosis in any given community there should exist one bed for every tuberculosis death. In the city of Detroit the death rate from tuberculosis in 1922 was 946. At the present time there are available in the city of Detroit 750 beds for the treatment of tuberculosis, including two private institutions. This leaves a shortage of approximately 200 beds.

Therefore as a means to carry out these three functions the sanatorium, the preventor-

ium and the open air schools play the most important part in a successful campaign against tuberculosis. The sanatorium not only offers a complete rest cure, but it also becomes a school of education which is 25 per cent of the treatment. A stay of two months will inspire the patient with ample knowledge and if need be, will aid him materially in the treatment in his own home. Those who desire to complete the sanatorium treatment, including the reconstructive period, will equip themselves once more for the industrial world for the purpose of making a livelihood and therefore completing the cycle in the realm of human usefulness.

As a further measure of prevention the preventorium is paramount. Too well do we know that tuberculosis infection takes its origin during childhood and if we can direct our efforts towards the wellbeing of the infected child we are doing no small amount of good towards the prevention of the disease during adult life. A preventorium with a capacity of 100 beds is essential in any city of medium size.

Next of importance are the open air schools with a capacity of from 60 to 80 children. These should be located at a given distance apart. They differ from the preventoria inasmuch as they are day schools and the child returns home for the night. The class routine is maintained similar to the regular class room, only the child is constantly under medical and nursing supervision. The noon day meal is provided, followed by one hour of bed rest. This opportunity should be extended to every child who has been exposed to actively diseased individuals for at least two terms of school life.

Another important element in a city control of tuberculosis is the enforcement of legislative measures such as:

1. The prompt reporting and registration of tuberculous individuals.
2. The disinfection and proper disposal of sputum.
3. The renovation and cleansing of premises after the removal or death of the patient.
4. An anti-spitting ordinance.
5. Compulsory hospitalization of careless tuberculous patients.
6. The pasteurization of milk for protective purposes.

With the enforcement of these measures a great deal can be done towards eliminating the disease.

The relationship of private physicians with any organized agency for the control of tuberculosis should be that of a mutual co-operation. In reporting a case of tuberculosis by the private physicians it should be stated on the report whether or not the patient is under his care and whether or not he desires the patient to be hospitalized. There are a certain number of patients who can afford to be treated by their private physician during the entire course of the cure. In such an instance it is not neces-

sary for the agency to interfere. The proper instructions to the other members of the family can be given by the physician. However, it frequently occurs that patients discontinue treatment with their physician and in order to maintain the whereabouts of such patients it is advisable to send out questionnaires every six months, and in the event they are under no care it is well to inform them through the nurses of the necessity of being under further medical treatment. In this manner a constant vigilance may be maintained over all tuberculous patients.

SUMMARY

1. The reduction of the tuberculosis mortality is apparently due to the various anti-tuberculosis activities.
2. The scope of the tuberculosis problem is measured by the number of tuberculous individuals in a given community.
3. Of the various anti-tuberculosis agencies it would seem the municipalities should become more active.
4. The division of the city into districts with a dispensary in each district.
5. The efficiency in the functioning of the dispensaries.
6. In a campaign against tuberculosis three factors are essential, viz.: The proper care of the sick, the prevention of the spread of the disease and to keep well.
7. The sanatorium, preventorium and the open air schools play an important part in the control of tuberculosis.
8. The enforcement of legislative measures is a material aid in tuberculosis work.
9. The establishment of a mutual co-operation between the private physician and the acting agencies.

DISCUSSION

DR. A. B. WICKHAM, Detroit: I am sure, gentlemen, that Dr. Wehenkel is to be congratulated for the thorough and painstaking work that he has undertaken in regard to the Detroit tuberculosis problem for the last number of years. He has given all his time to this subject and a great deal of personal sacrifice. I think that our problem is pretty well handled in our city.

There are just a few things I want to mention in regard to the work in general. You know that Patterson, during the last year, made some very startling announcements, showing the total number of tuberculosis cases they have in this country—the active cases about one million, and another million of potential cases.

Bringing these figures down more closely to home, on the basis of one to ten, we figure that in Detroit we have approximately ten thousand cases of tuberculosis, active and potential cases.

We also learn that we only have seven hundred beds in which to house these cases. So you can see how far we are from really solving our problem as a whole. It simply means that, after all, we have a case where we must do this job at home. It is a case of home treatment. So we have, in the last couple of years, been feeling more and more, as the cases go home from the sanitarium, that we lose them and they drift back into their old environment and shortly are lost track of, and we soon find they have not been helped.

So this home treatment has been organized and it has been carried on, we think, with a good deal

of success in the city of Detroit. The patient is kept at the sanitarium as long as they can be induced to stay there comfortably. Many times it is a case of necessity that they be returned home. And then, with a competent nursing staff and medical supervision, they are sent home. We have found that it has been of marvelous help to keep in close contact by means of weekly visits by the nurse. Once a month the physician calls on them. We have found that it keeps the patients out of the hands of the charlatans and Christian Scientists. It keeps them from drifting into the hands of the quacks.

There is one other point I want to make. We have heard a great deal this afternoon about focal infection. Non-tuberculous lung infection was brought out by Dr. Dunham. As practitioners, we have been overlooking this for the past few years. We have had an adequate program for the young child. The health crusade program has been a marvelous help in the schools. But there is another class that has been sadly neglected. I want to make a plea for this class this afternoon.

You will find that the average high school boy and girl have not had a fair chance. I think you will be astounded if you follow your case up more carefully and study the average boy coming into manhood and the young girl, with the strain of high school work, that the stress of the high school work is tremendous. I have been astounded this summer with the vast number of children graduated last year or last June and going into office positions, and many of them breaking down with far advanced tuberculosis. It is an appalling fact.

I think we, as medical men, owe it to the coming generation to examine them. Every man owes it to these people and the parents of these children to see that they have a proper chance, that they are examined and watched and observed carefully for months. If they are showing any signs of a breakdown, I think we owe it to the coming generation to give these young people a chance.

DR. C. C. SLEMONS, Grand Rapids: I just want to call your attention to two or three factors in the campaign against tuberculosis. I want to call your attention to the result of the bookkeeping which we find in the Health Department.

You know, gentlemen, we compile your figures over there; and sometimes they are to your credit and sometimes to your discredit. The figures at the present time coming into our office show that 95 per cent of the tuberculosis reports come from the clinics. We know that 95 per cent of the people with tuberculosis are not going to the clinics; that other people have tuberculosis. And it is astonishing, when you come to look these figures over, to find that over 90 per cent of the reports coming into the office come from the clinics.

Two years ago we went over our books. Out of fourteen hundred cases of tuberculosis we found less than three hundred cases of tuberculosis reported. We went over these entire fourteen hundred cases. It was a long job. We found eleven hundred cases reported in there that did not have tuberculosis. Two-thirds of them had never been told they had tuberculosis. And those figures were absolutely astounding to us. The reasons for it are many.

I believe that these anti-tuberculosis campaigns are all a mistake. For instance, I remember one time in the city hall where the clinic was being conducted a youngster had three different diagnoses made in three different days.

The trouble with the tuberculosis problem has been that they have come to the conclusion that the diagnosis is easy and have overlooked a whole army of cases that anybody should have seen. And this

applied especially to a lot of tuberculosis workers. They have got tuberculosis unless they can prove they have got something else. Now it seems to me that a diagnosis of tuberculosis should be the last thing to make. In other words, that the diagnostician must prove that individual has tuberculosis, because to say to an individual, "You have tuberculosis" is a serious thing to that individual.

Now, in any problem, any public health problem like the tuberculosis problem, there are two things to be done. One is prevention and the other is the cure and the care of the patients we have on hand.

Without your assistance, without your proper reporting of these cases, our assistance can be of absolutely no service. Ninety-five per cent of the cases are coming from the clinic. What we would like is to urge you people to be prompt in your report of tuberculosis.

A very good friend of mine in Grand Rapids, who does lots of this work, has reported one case in five years. I know he has had a good many more cases than that. Still the records in the office show he has reported one case in five years.

There are only three cities in America that have a lower death rate than we have. We have 126 beds in a brand new institution. The work has gradually been taken over by the city. And, beginning with the first of January the coming year, the city will have taken over all the anti-tuberculosis activities first started by the anti-tuberculosis society.

I think I am right in saying that Grand Rapids had the first shack in the state for the treatment of tuberculosis. And our profession, certain members of it, have been keen and alert and have done a lot of good in this line.

Our death rate has gradually dropped down so that last year it went to 52. If I remember correctly, it is the third city in America in regard to death rate in tuberculosis.

DR. COLLINS H. JOHNSTON, Grand Rapids: Why don't you make these men report their cases? Why don't you prefer charges or arrest this friend of your who has reported only one case in five years? Why let the doctors of this town ignore you in this fashion?

DR. C. C. SLEMONS, Grand Rapids: A good many of you doctors have gotten letters. You have been in the office. If a death from tuberculosis is reported to us, before a death certificate is even issued we go and see if that case is reported and those doctors are brought in and they are asked why. I can see some of the doctors here that I know have received these same letters.

But the big thing with us, Dr. Johnston, is that a great many death certificates come to us and we call the doctor up and he comes in and admits to us—whether they are telling the truth or lying, I don't know—"I didn't know they had it."

DR. A. M. WEHENKEL (Closing): In regard to what the last speaker said about the death certificates sometimes being signed before the patient is reported, I must say this about the cases of tuberculosis being reported in Detroit, we haven't much trouble with the physicians. Last year I think our reports from private physicians amounted to something over fifteen hundred. I consider that is very good.

While most of the cases that are reported have positive sputum, that is very true, yet the diagnosis is very often delayed until the sputum becomes positive.

In regard to Dr. Dunham's statement, relative to sinus infections, we all appreciate everything that he says. There is one caution I wish to insert, and that is in regard to another disease which very often reactivates tuberculosis. That is, it will lower

the resistance until tuberculosis manifests itself. We have proven that during the war, when we had records of four thousand soldiers who never did return to duty after they developed influenza, followed by tuberculosis. These patients did not pick up the tubercle bacilli in the army camps. They carried the infection probably since childhood. What happened after they developed influenza, it reactivated tuberculosis. This often occurs with other diseases. It may be sinus infection or typhoid fever, in fact any disease which takes on a chronic form may reactivate tuberculosis.

It has been shown in the Vienna clinic and in the United States, that 95 per cent of the children have a marked tuberculin reaction up to the ages of fifteen. It undoubtedly proves that the infection takes its origin during childhood life and becomes reactivated during adult life.

Some of the bronchiectases are very often secondary symptoms. After repeated examinations, we often find they develop a positive sputum after two or three years of suffering from asthma or any other respiratory trouble. We should not be too hasty in stating that it is not tuberculosis.

AURICULAR FIBRILLATION*

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The history of auricular fibrillation is an interesting and instructive one. In 1902 Mackenzie¹ showed that all evidences of auricular activity are absent from the jugular pulse of patients with a certain type of disordered heart action. This complex irregularity of the heart's rhythm which is so common in the later stages of mitral stenosis had been studied by many since the time of Marey² and had been referred to as "the mitral pulse," "*delirium cordis*," or "*pulsus irregularis*," but it had never been recognized definitely as an arrhythmia *sui generis*. It had also been known since the time of Skoda² that certain patients with heart failure of the congestive type displayed pronounced systolic pulsation of the neck veins and this had been erroneously attributed to tricuspid regurgitation. Mackenzie's demonstration that in many patients these two phenomena were constantly associated, the one coming and going with the other, established what we now know as auricular fibrillation as a clinical entity.

Long before this time physiologists had observed that faradic stimulation of the hearts of animals sets up a tumultuous, inco-ordinated activity of the muscle in which the separate fibrils seem at times to be contracting quite independently of each other. It was this apparently independent activity of individual fibrils that gave rise to the name *fibrillation*. When the ventricles fibrillate the circulation ceases at once, but the chief result of fibrillation of the auricles is an accelerated and completely irregular ventricular rhythm. The possibility that

auricular fibrillation was the underlying disturbance in some cases of ventricular arrhythmia in man was first suggested by Cushny and Edmunds in 1906, but it was not considered responsible for the irregularity identified by Mackenzie until the introduction of the string galvanometer enabled Lewis² and Rothberger and Winterberg to furnish the proof.

In 1895, Englemann² suggested that the inco-ordinated muscle activity of fibrillation of the ventricles was due to the interference of many contraction waves spreading from multiple centers of abnormal impulse formation in the ventricular walls. When auricular fibrillation became an object of widespread interest a similar view came to be held regarding it and this view received much support from a consideration of the relations that appeared to exist between auricular fibrillation and other forms of abnormal impulse formation within the auricles. Now that this view, after rapidly losing ground for the past ten years, has been completely overthrown, we see how blind we once were to its inadequacy. The repeated observation that fibrillation begins and ends suddenly, for instance, should long ago have led us seriously to question its validity, for a large number of independent centers would scarcely be expected to cease their activity simultaneously.

In 1908 Mayer² showed that under certain conditions a single contraction wave might be made to circulate about a ring of heart muscle for an indefinite period; it is this phenomenon which has come to be known as circus contraction. The following analogy, though crude, may enable the reader more easily to understand its nature. Let us suppose that we have a toy railroad track circular in form and ten feet in circumference and that on this track we place a toy train nine feet long and set it in motion at a uniform speed. Nine-tenths of the track will be occupied by the train and one-tenth will be free; the engine will follow the last coach around and around at a distance of one foot, but will never be able to catch up with it so long as we do not shorten the track or lengthen the train. Let the train represent the portion of a ring of muscle in systole and the open track the portion in diastole; the muscle in systole is in the refractory state, the muscle in diastole is not; we have then a gap of non-refractory in a ring of refractory muscle. On one side of this gap systole is just beginning; on the other side it is just ending. If the gap is closed by lengthening the duration of systole or by shortening the ring the circus contraction comes to an end for the simple reason that the advancing contraction wave can not spread into muscle which is still in the refractory state. It was Mines³ and Garrey² who first suggested that fibrillation was due to the setting up of

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such a circus contraction in the heart muscle and Lewis² and his associates have been able to prove that this is indeed the case. Apparently the path of the circus contraction in auricular fibrillation usually encircles the orifice of one of the great veins which enter the right auricle and the contraction wave makes as many as 450 to 600 complete circuits per minute. The path taken by the circus contraction is of course not circular in the geometrical sense; it is such a circle as a child afflicted with a pronounced tremor might draw, and it varies in form with every cycle so that no two successive circuits are completed in the same length of time. The circuitous and varying path taken by the circus wave is determined by the failure of many fibers to pass out of the refractory state during the brief interval which separates successive cycles, and the consequent setting up of barriers of refractory tissue around which the advancing wave front must find its way. It is this irregularity in the duration of the circus cycle and the presence of regions of partially or completely refractory tissue which interfere with the spread of centrifugal waves from the central wave to the auriculo-ventricular junction that gives rise to the irregularity of the ventricular rhythm. The analysis of auricular fibrillation was fortunately greatly simplified by the occurrence of a similar but less complicated disturbance; in so-called auricular flutter in which the auricles beat coordinately at a rate of 200 to 350 per minute the path of the circus wave is longer; possibly it encircles both cavae instead of but one; as a result of the greater interval between successive cycles the barriers of refractory tissue met by the central wave are smaller and less numerous so that the path of the circus contraction and consequently the duration of successive cycles is invariable. For this reason the rhythm of the ventricles is usually regular, although these chambers, protected as they are by the comparatively feeble ability of the junctional tissues to transmit impulses, respond only to every second, third, or fourth circus contraction. In fibrillation, where the number of circus contractions per minute is much greater and the duration of the circus cycle is variable, the ventricles are stimulated so irregularly that it is impossible to demonstrate any relation between the circus rate and the ventricular rate.

Although we now have so complete a knowledge of the underlying mechanism of auricular fibrillation, we are still almost entirely ignorant of the factors in disease which predispose to it or give rise to its initiation. All observers agree that it is particularly common in three types of heart disease; in mitral stenosis, in the type of heart disturbance produced by toxic goitre, and in what may be called, for want of a better name, chronic myocarditis; I refer to the

type of heart disease which occurs after middle age, usually, though not always in association with arteriosclerosis, chronic hypertension, or both. Of 51 patients with auricular fibrillation examined at the University Hospital during the last fourteen months, seventeen had mitral stenosis, seven toxic goitre, and twenty-three chronic myocarditis. There was one case of luetic aortic insufficiency in which auricular fibrillation came on after treatment with salvarsan and digitalis, and the remainder (three cases), could not be classified. It is generally agreed that syphilis is not a common cause of the disorder. A positive Wassermann reaction is, as shown by Levine³, no more common among fibrillators than among the general run of hospital patients and it is very uncommon to find fibrillation association with luetic aortic insufficiency; the case mentioned above is the second that I recall having personally examined. Libman and Rothschild⁴ have pointed out that fibrillation is also very uncommon in patients with sub-acute bacterial endocarditis.

Between the age of patients with auricular fibrillation and the type of heart disease with which it is associated there is an interesting relation. Of the seventeen patients with mitral stenosis and auricular fibrillation mentioned above, only three were over fifty years of age; of the twenty-three patients in whom fibrillation was associated with chronic myocarditis, on the other hand, only four were under fifty years of age and the youngest was forty-six. The age of fifty may, therefore, be taken as the approximate dividing line between the two groups³. In the separation of these groups the electrocardiogram is often useful; ten of the fifty-one cases under discussion showed right ventricular preponderance and all of these patients had mitral stenosis; sixteen showed left ventricular preponderance and eleven of these fell in the chronic myocarditis group, four had toxic goitre, and one had mitral stenosis. This last patient was a man past middle age who was seen on but one occasion and it is possible that he had hypertension or arteriosclerosis in addition to mitral stenosis. The association of right ventricular preponderance with auricular fibrillation should lead, therefore, to careful and repeated search for the murmur of mitral stenosis which is often indistinct when the ventricular rate is rapid and the rhythm irregular. Left ventricular preponderance is very much against the diagnosis of mitral stenosis and suggests the presence of arteriosclerosis or chronic hypertension.

This series of fifty-one cases of fibrillation includes only such patients as were seen in the medical wards or in the medical out-patient department. Many additional cases were examined in the surgical wards where transient auri-

cular fibrillation frequently follows goitre operations. Under these circumstances the ventricular rate is often excessively rapid, sometimes reaching 200 per minute. A considerable proportion of these patients die, apparently not so much because of the auricular fibrillation and resulting circulatory disturbances as because of the high grade of toxemia which many of them show. Transient post-operative fibrillation is not confined to cases of toxic goitre, however; it occurs after all sorts of operations, usually in patients past middle age. Although alarming, to the surgeons it is, except in patients with exophthalmic goitre, rarely followed by serious consequences.

Transient auricular fibrillation is fairly common during some of the acute infectious diseases. Cohn⁵ has shown that it occurs in a small percentage of patients with lobar pneumonia and it has also been observed during acute rheumatic fever and other acute febrile diseases. Robinson⁶ has reported a case of transient auricular fibrillation in a young man following hydrogen sulphide poisoning; the fibrillation persisted for a few days only and no other evidence of cardiac disease was found.

From time to time patients are seen in whom paroxysms of auricular fibrillation occur at irregular intervals; the attacks are usually accompanied by severe palpitation and precordial distress and sometimes by severe precordial pain or symptoms of heart failure of the congestive type. Paroxysmal auricular fibrillation is clinically indistinguishable from simple paroxysmal tachycardia except by the arrhythmia; it may recur over a period of many years without serious results, but there is a distinct tendency for the disorder to become persistent. Patients with persistent auricular fibrillation often state that at the beginning of their illness the arrhythmia came in attacks. Sometimes such an attack of fibrillation follows severe exertion and if the nature of the ventricular tachycardia is not recognized and symptoms of heart failure ensue, a diagnosis of acute dilation of the heart may be made. Last year I saw a college student who had an attack of auricular flutter after taking part in the undergraduate rush; after the flutter ceased he was found to have early mitral stenosis of which he had previously had no knowledge. The heart was not enlarged and the murmur of stenosis was not audible during the attack; it is easy to understand how such a disturbance might in the old days have been considered acute heart failure brought on in a healthy subject by severe exertion.

A small percentage of patients with auricular fibrillation show no other evidence of cardiac abnormality and occasionally no disease of the heart is found post mortem, although auricular fibrillation was present during life. Some be-

lieve, therefore, that auricular fibrillation may exist as a functional disorder in the absence of cardiac disease. It is my own opinion that persistent auricular fibrillation is invariably, or almost invariably, associated with chronic changes in the heart muscle. This view is supported by the great tendency of persistent fibrillation to recur after it has been abolished by quinidin sulphate. These changes in the heart muscle are not, however, necessarily gross structural changes which the pathologist can discover; they may be physico-chemical changes that are beyond the reach of our present methods of postmortem examination. Furthermore, I believe that the myocardial changes present in persistent auricular fibrillation are, with few exceptions, serious. That patients with this disorder may occasionally live comfortably and engage in many of the ordinary activities of life for many years is not to be denied, but the same thing is true of patients with many other serious illnesses. Transient auricular fibrillation may occur in patients with chronic myocardial changes of lesser grade in response to over-exertion, to toxemia or infection, or even to emotional strain; or it may occur as a result of temporary myocardial changes during the course of some acute toxemia or infectious disease. The nature of the myocardial changes which give rise to auricular fibrillation in acute diseases, their seriousness, and their permanency must be judged from our knowledge of the cardiac pathology of the disease in question. Transient auricular fibrillation during an attack of rheumatic fever has not the same significance as the same disorder during the course of a pneumonia.

Auricular fibrillation is usually easily recognized by auscultation of the heart and palpation of the pulse. It is the only irregularity which is common when the heart rate exceeds 120 per minute, for sinus arrhythmia, partial heart-block, and extrasystoles usually disappear before the rate reaches this level. The combination of arrhythmia and tachycardia is, therefore, an almost certain sign of auricular fibrillation. If the heart rate is below 120 and can be forced up to that figure by exercise or by other means, the persistence of the irregularity strongly suggests fibrillation. The heart rate must be determined by palpation of the apex beat, or by auscultation, for many of the weak heart beats do not produce a pulse at the wrist. There is, therefore, a considerable discrepancy between the heart rate and the pulse rate, especially when the ventricular rate is high. A knowledge of the magnitude of this so-called "pulse deficit" is a valuable guide in judging the grade of the circulatory disturbance produced by the arrhythmia. The presence of a pulse deficit is not, however, pathognomonic of the presence of auricular fibrillation; it is oc-

casionally produced by multiple extrasystoles. In most cases of auricular fibrillation the arrhythmia is so pronounced and characteristic that there is no difficulty in the diagnosis; it is an absolute arrhythmia in which there is no repetition of the same series of events from time to time, such as there is likely to be in the case of the other cardiac irregularities. The most difficult cases are those in which, either as a result of treatment with digitalis or because of the relatively low conducting power of the junctional tissues, the ventricular rate is within normal limits. Such cases are recognized readily only after considerable experience for the arrhythmia may be very slight. Fortunately, however, the recognition of auricular fibrillation when the ventricular rate is low is of much less practical importance than when it is high,

It is only since the recognition of auricular fibrillation as a clinical entity that many misconceptions regarding the effects of digitalis have been cleared up. It is now known that digitalis does not slow the heart rate appreciably when the rhythm is regular unless it be given to the point of producing heart-block. In auricular fibrillation, on the other hand, digitalis reduces the rate of the ventricles remarkably and at the same time makes the rhythm more regular. So obvious and striking are these effects that there has been a tendency to consider them the only beneficial effects of the drug, and it has been stated that in heart failure with regular rhythm digitalis is useless. This is undoubtedly an extreme view and many protests have been raised against it. There is good reason to believe, even though it may be impossible to prove, that digitalis increases the amplitude of ventricular systole in man as it does in animals. We know that it produces characteristic changes in the form of the human electrocardiogram and while the significance of these changes is doubtful, it has been shown by Cohn and Levy⁷ that the amount of digitalis required to produce them in animals also increases the amplitude of ventricular systole. Nevertheless, digitalis is, on the whole, a more effective remedy in heart failure associated with auricular fibrillation than in heart failure accompanied by normal rhythm. For this there are probably several reasons. Digitalis has, in the first place, the same effect upon the ventricular muscle in auricular fibrillation that it has when the rhythm is regular, but to this effect is added the benefits of a reduction of the ventricular tachycardia and arrhythmia. In the second place, it is probable that patients with auricular fibrillation, because of the extra strain thrown upon the heart by the disordered mechanism, break down earlier than patients with normal rhythm; that is, at a time when the heart muscle has more recuperative power. And lastly,

fibrillation is common in patients with those types of heart disease in which a tendency to recovery is greatest; in leucic heart disease in which the chances of recovery from heart failure are poorest auricular fibrillation is uncommon.

In very rare instances the auricles cease to fibrillate after and apparently as a result of digitalis medication. The opinion that this is a frequent occurrence is due to the fact that the arrhythmia may become inconspicuous when the ventricular rate is greatly reduced by the drug. The rhythm does not, however, become absolutely regular unless the treatment is pushed to the point of producing complete heart block. In this connection it should be remembered that in complete heart-block produced by digitalis, bradycardia is not always present.³

In giving digitalis to patients with auricular fibrillation we usually give the drug in doses sufficient to reduce the ventricular rate to between 60 and 70 per minute while the patient is at rest; less than this amount is insufficient. This can usually be done without producing nausea or other signs of digitalis intoxication. From time to time, however, patients are encountered in whom it is impossible. In some instances the patient is particularly sensitive to the drug and toxic symptoms arise after doses which are smaller than those tolerated by the average patient and smaller than the doses usually required to produce the desired results. In other instances, however, the fault lies elsewhere and full doses of the drug do not have the expected effect upon the ventricular rate. It is often said that such failures are particularly common in auricular fibrillation associated with toxic goitre; in my own experience many of these patients react in exactly the same way as other fibrillators, but in many of those with auricular fibrillation and excessive tachycardia following goitre operations I have found it impossible to reduce the ventricular rate appreciably. In one or two instances I have given as much as fifteen ampules of digifolin intramuscularly, an amount of the drug which usually produces a conspicuous effect, without reducing the ventricular rate more than ten or fifteen beats per minute. Such patients often die and at autopsy marked degenerative changes in the liver and other signs of profound toxemia are found. I do not believe that the failure to reduce the heart rate has in such cases any real effect upon the outcome, but regard death as the result of thyroid shock. It is a curious fact that auricular fibrillation does not always come on during the operation or soon after, but may occur as late as the third or fourth day.

The manner in which digitalis is administered is not of great importance; it is best to use a preparation which is fresh and which has

been standardized biologically so that valuable time may not be lost. It is also convenient to know the cat unit strength so that the amount of the drug that will be required to digitalize the patient may be computed approximately. As shown by Eggleston about 0.15 cat units per pound body weight are usually necessary. Using the calculated total dose as a guide the drug may be given according to any desired scheme, the time taken to administer the full dose being determined by the urgency of the need. The calculated dose is only a rough guide for the susceptibility of different patients and the completeness with which the drug is absorbed are variable; it is necessary, therefore, to continue the treatment until the desired effects are obtained or until toxic symptoms arise. The vomiting which results when the drug is pushed to the limit of tolerance has repeatedly been shown to result from a direct effect upon the vomiting center or more probably from a reflex originating in the poisoned heart; it has nothing to do with the action of the drug upon the stomach. No drug which will not produce such vomiting is a good preparation. Nevertheless, vomiting of another kind may result from the administration of the drug; vomiting which comes on soon after the medicine is swallowed. This type of vomiting is more likely to occur in patients who are very ill or who are subject to nausea. It is always annoying, since it is difficult if a large dose has been given to tell how much of the drug the patient has retained, and it may seriously interfere with the treatment. Whether such vomiting is more common with one preparation than another I am not able to say, but I have adopted the plan of giving the drug intramuscularly or intravenously to patients who seem likely to vomit if it is given by mouth. For this purpose strophanthin is a suitable preparation if given intravenously in divided doses. Recently I have used digifolin instead; it has the disadvantage of being expensive, its cat unit strength is not given by the manufacturers, and it is certainly a weaker preparation than the average good tincture. Nevertheless, I have used it with excellent results. Dr. Norman Clark, one of my former associates, tested it out carefully in a number of patients and found that from fifteen to twenty ampules were required to digitalize the average patient; a few patients required more. Five ampules were given each night and morning until the effects desired were obtained. I should not hesitate to give a single dose of ten ampules (each ampule contains 1.1 cc. and is said to be equivalent to 0.1 gm. of dried digitalis leaf) in an emergency to a patient who had had no digitalis during the previous ten days, and this dose may be followed, after three or four hours, by a second dose of five ampules if necessary.

Within the last two or three years another

drug has been widely used in the treatment of auricular fibrillation. It was shown by Wenckebach that quinine sometimes stopped attacks of auricular fibrillation promptly and subsequently, Frey found that quinidin, an isomer of quinine, was much more potent and could be used to abolish even long continued fibrillation. Most observers find that fibrillation can be abolished temporarily in about one-half of the cases; but in many patients a relapse occurs almost at once so that no permanent benefit results. Furthermore, quinidin has some undesirable effects; it has a tendency greatly to increase the ventricular rate and this always makes the patient uncomfortable, and if he has heart failure, the increased strain thrown on the heart tends to increase it. For this reason the drug should seldom be given to patients with heart failure of high grade; if such patients are to receive quinidin they should first be treated with rest and digitalis until they are in fairly good condition. According to Lewis, the simultaneous administration of digitalis tends to keep the ventricular rate down without interfering with the other effects of quinidin. In some instances the administration of quinidin has been followed by embolism or sudden and inexplicable death, and although these accidents are uncommon they have deterred many from the use of the drug. It is generally admitted that it should not be given in large doses to patients that can not be most carefully observed during the course of treatment. Personally, I have not used quinidin very extensively. Nineteen of the 51 patients mentioned in the earlier part of this article received the drug, but in only four did normal rhythm result. The small percentage of successes was probably due to the fact that the drug was usually given for one day only and its use was abandoned whenever disagreeable symptoms arose. The preparation that I have been using almost invariably produces nausea and vomiting and this has proved a great handicap in its use. I have given single twelve grain doses of quinidin to a number of patients with heart disease who had no arrhythmia to determine its effects; nearly all of these patients were nauseated, some had diarrhoea, and many complained of headache or dizziness. One developed a very extensive skin eruption and a high fever. The drug often produced a mild tachycardia, but in the majority of cases there was no other change either in the cardiac symptomatology or in the form of the electrocardiogram; in a few instances the patients stated that they felt better and a few minor changes in the electrocardiogram were noted. Quinidin sometimes abolishes an extrasystolic arrhythmia and the tachycardia which it often produces may be in part responsible for this effect. Many patients with extrasystoles receive no benefit from the drug.

I have had a few cases in which quinidin has

given extraordinarily good results. In one instance of fibrillation of recent origin in a woman with mitral stenosis the fibrillation stopped under quinidin about sixteen months ago; since that time the patient has taken the drug continuously in doses of three grains twice a day and is still free of fibrillation and in excellent health. In another instance of fibrillation and toxic goitre, the fibrillation stopped after small doses of the drug. Quinidin medication was discontinued and the fibrillation returned three weeks later. Quinidin was given a second time with the same result as before and the patient has taken the drug continuously for the last six months. Several attacks of fibrillation have occurred, but they have all been short and have usually come on after unusual effort or excitement. In a third case an attack of auricular flutter, which came on after severe exertion, was promptly stopped by the drug. No more quinidin has been given, but the flutter has not returned. I have frequently been able to stop attacks of fibrillation which followed operation with as little as five grains of the drug.

My own experience with quinidin leads me to believe that its sphere of usefulness is decidedly limited, but that it is a very valuable remedy in selected cases. It is a somewhat dangerous drug and I do not advocate its use when its action can not be electrocardiographically controlled. It frequently produces complicated disturbances of the heart's mechanism which can only be analyzed with the aid of the electrocardiograph and some of these make the discontinuance of the drug imperative. Even when the utmost care is used, however, serious accidents such as temporary paralysis of the respiration or even sudden death may sometimes result. In all cases preliminary doses must be given to determine whether the patient has any idiosyncrasy to the drug; if none is present it is customary to give five or six grains every two to four hours for three or four days or until the fibrillation is abolished. After the arrhythmia has given place to normal rhythm the drug should be continued to prevent relapse; three grains twice a day may be given for this purpose. The best results are obtained when the fibrillation has recently developed, when the heart is only slightly enlarged, and when cardiac weakness, if present, is not of high grade. The drug should not be given to patients who give a history of embolism.

The manner in which quinidin acts in auricular fibrillation is well understood. The drug partially paralyzes the vagus nerves; it reduces the rate of conduction and prolongs the refractory period of the muscle. I have previously explained that fibrillation of the auricles is due to the setting up of a circus contraction; its continuance depends upon the maintenance of

a certain relation between the length of the path pursued by the circular contraction wave, the speed of conduction, and the length of the refractory period. Quinidin disturbs this relation; its effect on the vagus and its direct action on the muscle both lengthen the refractory period and if this effect preponderates over its effect upon the conduction rate the whole of the muscle which lies in the path of the circus contraction is at length simultaneously in the refractory state and the circus contraction must seek a new and longer path or cease its travels. As the refractory period is lengthened more and more the path which the circus contraction must take becomes longer and longer; either because a longer path is no longer available or because unusually large barriers of refractory muscle are finally encountered, the circus contraction comes to an end. In those cases in which quinidin fails to stop the fibrillation it may be assumed that the effect on the speed of conduction preponderates over the effect upon the refractory period, or that it is impossible to increase the refractory period in a sufficient degree.

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DISCUSSION

DR. M. A. MORTENSON, Battle Creek: What Dr. Wilson has said about auricular fibrillation I think is very apropos and I want to emphasize the importance of the recognition of this type of heart disease because you will find it is much more common than we think if we study our cases carefully.

Earlier in the study of heart disease, before auricular fibrillation was definitely classified, a few cases were recognized under the term of delirium cordis, and some of the older physicians recognize it better that way than by the present more elaborate description of the disease.

Relative to the question of auricular fibrillation in sub-acute bacterial endocarditis, I have seen one case in my experience of this type; and this individual had this disease for the period of about two years. From all I could learn, the trouble began first in the mitral valves and then extended to the aorta.

As to the seriousness of auricular fibrillation, I agree that it is a serious disease when we say that any chronic heart disease is serious. But I believe that there are just as many cases of heart disease of the chronic valvular type that are serious that do not show auricular fibrillation. I have had opportunity to observe a good many cases of auricular fibrillation over a number of years and the patients had very little inconvenience from it, provided

they are careful, just as anyone with a chronic heart disease should be.

We find many valve diseases that are extensive and embarrass the heart without auricular fibrillation, and such cases must be managed very much the same as those that have fibrillation. I think that it is more a study of the heart as a whole and what its capacity is to do the work demanded of it that gives us a clue as to just what we may permit the patients to indulge in.

I am sorry that Dr. Wilson did not say a few words relative to the quinidin treatment because I think that is a very important feature in the management of these cases of heart disease, particularly auricular fibrillation, of course, but it goes still further and can be used in the cases of extrasystoles and the tachycardias. But I believe that a great deal of observation is still necessary in order to put us on safe ground and a solid footing as to the use of quinidin.

Wickenboch spent some days with me a few weeks ago. Relative to the use of quinine in the management of heart disease, it was very interesting to learn that his attention was first called to this many years ago when still a practitioner in Holland. He had a patient with malaria and also an irregular heart action. He asked the doctor why he should have these irregular beats. The doctor said, "They are of little consequence." He said, "I can stop them." He said, "When I take quinine for malaria then my irregular heart action stops." The doctor asked him to do this and he came the next day, and sure enough, the premature beats had subsided. And the doctor has used quinine in the management of certain types of irregularities because of those observations ever since.

I think when we come to the use of quinidin sulphate, we must be careful to have our patients under strict observation. Preferably they should be in the hospital. As we go further in the management of heart disease with quinidin, we will begin to put these patients to bed while treating them with quinidin, at least in the beginning of the course of treatment. In this way I believe the general practitioner, as well as the heart specialist, will learn definitely how to manage these cases and to which cases to apply quinidin treatment as well as how to avoid catastrophes as reported by various observers.

DR. WALTER J. WILSON, Detroit: The question of fibrillation is very interesting because of this peculiar fact, that is, you can get a greater proportion of apparent recoveries or you can get amelioration of this particular phase of cardiac trouble more than any other phase of cardiac conditions. Striking results are obtained.

I remember a case I saw a number of years. She is still living. It was one of these types of which Dr. Frank Wilson speaks. There was edema of the lower extremities. There was a certain amount of abdominal ascites.

Some doctor said she had water on the liver. That was his diagnosis. This happened to be auricular fibrillation. On digitalis treatment, it cleared up. She still uses digitalis, something I don't recommend. She is a striking evidence of what can be done. The majority will do finely on digitalis treatment. As far as digitalis treatment is concerned, don't believe in beginning with massive doses. You never can tell what exactly that bundle is going to do. So you have to be very careful.

The age incidence is generally high. The youngest case I have seen was ten or eleven years of age. Most of them develop in adult life, although I have had a number fifteen or sixteen years of age.

The question of instrumental examination is as

Dr. Frank Wilson puts it. You can diagnosticate 80 or 90 per cent of the cases without the use of such instruments. If you want to know about your systoles, you cannot differentiate unless you have a myocardiogram. I have in my pocket a cardiogram of a woman I saw in 1914. She had at that time a cardiac rate of 48. She still has that rate. One of our leading Detroit physicians is in the same condition. I saw him when he developed his fibrillation. He has been fibrillating ever since. With his flutter, he developed block. The block has been sufficient to keep his rate at a point where he has been able to get along without digitalis.

I am not very much in favor of quinidin. I had a patient under observation for several years. I saw her develop premature beats and eventually fibrillation. She was getting along very nicely on digitalis medication. I used quinidin. Five grains one day and ten the next. The same night she died. With my present experience, I would not have given her that.

She had a mitral stenosis. No doubt there was a thrombus behind that orifice and the regular rhythm ensued and the valves contracted on the soft walls and she had a general embolus and died.

Where you can demonstrate any special weak lesion, go ahead and use quinidin. I have a case now. We decided she had a myocardial disturbance. I used quinine. She was under treatment for a long time with a doctor now deceased, for her goitre condition. Under this form of treatment, she has cleared up and feels better than for years. Quinine is not so detrimental and so depressant to the heart muscles as quinidin. I would recommend it rather than quinidin itself.

I appreciate ever so much the paper of Dr. Frank Wilson. I think we all agree with everything he said. We are very glad to hear him in the medical section of the Michigan State Medical Society.

THE CHAIRMAN: I would like to ask Dr. Wilson, in closing, if he will discuss the use of quinidin in fibrillation.

DR. FRANK N. WILSON, Ann Arbor, (Closing): I have not used it very extensively. I had one patient who had a cerebral embolism after the fibrillation had been abolished by quinidin. Whether this was due to the drug I am not quite sure.

I also had several patients whom it made very sick. Quinidin, in one sense, does the opposite from what digitalis does. It greatly increases the ventricular rate. If the patient has heart failure, the quinidin is likely to make it worse. For this reason the drug should not be given to people who have heart failure of an advanced grade. If such patients are to be given quinidin at all they must be given a preliminary course of treatment and rest in bed until they are in the best possible shape for the quinidin to be given.

Several cases of sudden death have been reported following quinidin. Just what they are due to we do not know, but Kerr in San Francisco had one case where he knew the ventricles went into fibrillation on two occasions following this drug. The patient recovered both times.

It seems probable that some of these cases of sudden death are due to ventricular fibrillation. Nineteen of the 51 cases I mentioned received quinidin. In only four of these was the auricular fibrillation abolished. That is a very poor percentage of successes. Whenever any unfavorable symptoms arose, I stopped the drug and rarely gave it more than one day. If the patient was nauseated and had a cardiogram which looked serious, I discontinued the drug.

One patient developed fibrillation three or four months before I saw her. The fibrillation was

abolished by quinidine. The patient has taken quinidin each night and each morning ever since and has had no more trouble.

I had a second patient who did almost as well. This was a case of flutter which came on after exercise. I have stopped fibrillation following operation by as little as five grains of the drug.

I have not had very much success in stopping extrasystoles. In most of the cases in which the drug was given for this purpose the extrasystoles continued as before.

I have given quinidin to a number of patients, probably 25 or 30, who had no disturbance of rhythm at all, just to see what effect it would have. Most of them were nauseated, but the drug produced no change in the cardiac symptomatology, none of the things likely to be produced in fibrillation. It does cause tachycardia. It may be that is why it sometimes abolishes extrasystoles.

CHANGES IN THE LUNGS AND BRONCHI DUE TO UPPER RESPIRATORY DISORDERS*

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An examination of the chest even though it includes history, physical findings, and X-ray evidence, is incomplete without a definite knowledge of conditions in nose, throat and mouth; and only in very frank cases of lower respiratory disease should an opinion be given without an examiner having a report from a competent nose and throat specialist on the condition of the upper respiratory tract.

It is a well-known fact that the upper respiratory tract is the seat of focal infections and the constitutional effects and clinical manifestations of such affections are recognized by the internist. The changes in the lower respiratory territory because of nose and throat abnormalities are not so generally understood.

A partial obstruction to the inspired air caused by a deflected septum, enlarged tonsils, adenoids or polpi, may lead to abnormal physical findings in the thorax due to a localized atelectasis in one or both apices; and in such instances a physical examination of the chest may reveal deficient expansion, feeble vocal fremitus, weakened breath sounds, often grouped, persistent rales, and sometimes definite apical retraction. A deflected septum or enlarged turbinates, may act as a dam behind which collects mucus and excretion, which acts as a splendid culture media for the developing and harboring of bacteria. The same narrowing of the tract causes a greater tendency on the part of the patient to force it clear, thereby extending the infection into the accessory sinuses, with the resulting respiratory and constitutional symptoms.

Any affection of the nose or throat may

produce interesting evidence on the stereo-roentgenograph of the chest. The bronchial tree supplying one or both pulmonary apices may be thickened, infiltrated, interlaced, beaded, and is often hazy in appearance, simulating to a marked degree an early tuberculous process. The lung roots may seem enlarged and boggy and yet all such signs may disappear in a year's time after a surgical correction of the upper respiratory tract. In a review of these changes in the lungs and bronchi due to a blocking of the nasal passages, think of the similarity in signs and symptoms when compared with a case of early pulmonary tuberculosis, such as the similar physical signs in the chest, the X-ray abnormalities in lung roots and bronchial tree as above described, the respiratory symptoms of chronic cough and expectoration, and constitutional evidence such as irregular afternoon fever, fatigue, pallor, loss of weight, and irregular night sweats. Such patients often present a striking picture. They are stamped with a "definite appearance of something wrong" and are labeled with many indefinite attempts at diagnosis.

It is not surprising that many such cases are diagnosed as pulmonary tuberculosis and treated as such. Is it then not reasonable to consider a careful examination of the upper tract a necessity before a final diagnosis is given in all cases of pulmonary or bronchial disturbances where evidence of frank lesions is lacking?

On the other hand, it is just as important for the laryngologist to obtain a definite knowledge of the lungs, bronchi, mediastinum and circulatory system. A mitral lesion can be the primary cause of a persistent cough, and the administration of some digitalis may be of diagnostic value in such a case. An enlarged arch has produced respiratory symptoms and an irritated pleura, pulmonary tuberculosis, neoplasms, and substernal goitre have all been a remote source of such symptoms while some upper respiratory abnormality has been wrongfully blamed.

It is a proven fact that thoracic affections, such as the different forms of chronic bronchitis and certain types of bronchiectasis, and lung affections including chronic pulmonary tuberculosis, have failed to show definite improvement regardless of the most intensive therapeutic measures until the abnormalities in the upper air passages were corrected by surgical interference. A wise physician once said regarding the treatment of chronic affections of the lungs and bronchi, "First inspect the nose and throat." Webb considers affection of the nasal sinuses as the chief cause of bronchiectasis and recommends the correction of such a condition as the first step in the treat-

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ment of the thoracic disorder. It is not advisable to perform major operations on the nose and the throat in the presence of active pulmonary tuberculosis, but some cases of the chronic type free of toxic symptoms have a better chance of a speedier recovery, and a more permanent arrest, after being relieved of the extra burden of a pair of diseased tonsils or a chronically infected nasal sinus.

Affections of the upper respiratory tract give rise to both local and conditional symptoms, the former including cough and expectoration, due to enlarged glands or the inhalation into the trachea of infected mucoid material. Diseased tonsils alone are perhaps more liable to cause constitutional symptoms. A dry cough may be the only symptoms referable to the respiratory tract. On the other hand, the different types of bronchitis, are more likely to be the result of a chronic sinusitis; and such affections are often considered as primarily thoracic when the initial lesion really exists in the nasal passages.

A certain type of localized bronchitis or alveolitis has been noted by the writer, in which the physical signs consist of grouped, persistent, localized, medium-sized rales, increased on coughing and limited to a small area at one pulmonary base laterally or posteriorly, with negative X-ray findings, with an irregular afternoon fever of from 99.2° to 99.8° , and a dry cough was apparently the only clinical accompaniment. In one such case, of three years' duration, the removal of three ulcerated teeth was followed slowly but surely by a complete disappearance of the clinical symptoms and physical signs. A dental abscess discharging into the buccal cavity may be the cause of a long-standing bronchitis.

Internists interested in the study of lung affections often overlook the fact that the heart is a part of the thoracic continuity. Nose and throat specialists should pay close attention to the buccal cavity and the dental condition. After the upper respiratory encumbrances have been corrected and as far as possible the non-existence of pulmonary affections has been proved, a goodly number of cases of chronic laryngitis still exist on account of neglected dental inspection. A negative X-ray report on the teeth does not prove that dental abscess and infections do not exist but it is a safer procedure than a mere optical inspection and indifferent tapping of the teeth as a method of investigation.

Changes in the thoracic contents due to nose and throat affections may be caused by different conditions. The mechanical blocking of the intake of air due to partial nasal obstruction gives a limited and delayed supply of air to the lungs, and localized apical atelectasis may be

the result, with the associated abnormal physical signs. Infection from retained secretions carried down to the bronchial glands by the lymphatics or the blood stream and the inhalation of irritating chemical substances account for such changes as chronic laryngitis, bronchitis, and bronchial adenitis.

Chronically enlarged bronchial glands in children are frequently the result of the action of the tubercle bacilli, but a child should not be labeled tuberculous on this evidence alone. The cause of the bronchial adenitis may be found in the tonsils or the posterior nares.

In a laboratory examination of the sputum the presence or absence of tubercle bacilli is not enough to determine. Isolate the prevailing organism, and examine for the presence of elastic tissue and pus cells. If more routine examinations of sputa were demanded by those of us interested in respiratory affections, some very serious mistakes would be avoided. A careful examination of the sputa in cases of all acute colds would increase the percentage of early diagnosed pulmonary tuberculosis as many latent cases "open up" for a short time during an attack of some acute non-tubercular respiratory infection only to rapidly subside and disappear along with the disappearance of the "recent cold."

In the past eight years Dr. Colver and the writer have been associated in the study of many such cases, and our experiences have led us to consider carefully the following points:

1. Chronic narrowing of the nasal passages often causes definite abnormal physical and X-ray findings in the thorax which gradually disappear after corrective surgical methods have been employed.

2. In all cases of chronic respiratory disturbances examine carefully, by every available means, both the upper and the lower respiratory tracts.

3. It is not advisable to treat minor upper respiratory ailments too persistently in the face of decided respiratory symptoms such as cough and expectoration. Investigate the thorax.

4. An opinion on the lungs should not be given without a knowledge of the conditions in the upper respiratory tract except in cases of frank lesions.

5. Major operations on the accessory sinuses require a previous knowledge of the conditions in the thorax.

6. The causes of asthma are legion; infections in the upper air passages and accessory sinuses explain the etiological factor in some cases.

7. It is well to remember that the teeth are located close to the upper respiratory tract and often require investigation in the search for the cause of respiratory symptoms.

8. The X-ray may be used to advantage not only on the thorax but also on the accessory sinuses.

9. A routine laboratory examination of sputum is advisable.

10. If the patient is to receive the greatest amount of good in the greatest number of instances, specialists must take a broad view of all cases, and should always consider the possibility or probability of etiological factors which are outside their specific fields of endeavor.

DISCUSSION

DR. HERBERT RICH, (Detroit): I wish to call your attention to the resume of this paper which is printed in the program. It is not often that a thing like that is worth reading, but this is, and if you can find anywhere else in the English language, in print, a record better systematized and boiled down, I would like to know where it is. So far as I know it has not been done before. There are two or three things I would like to add, and I will read it hastily.

"Any upper respiratory disorder, especially a stenosis or something which harbors chronic infection, will, as a rule, cause definite changes in the lungs and bronchi. These alterations may be divided into mechanical, chemical and infectious.

"Mechanical changes take more or less a form of atelectatic signs, especially in the upper lungs. Those conditions in turn cause definite alterations in the breath sounds which may be confused with more grave pulmonary disorders."

Dr. Dunham of Cincinnati told us yesterday in our section of a chronic case, a man who was treated seven years for tuberculosis, and who had chronic bronchitis, but no tuberculosis.

"The chemical and infectious changes are caused by flooding of the lymphatic glands with infection and toxins from diseased tonsils or chronic sinus infections."

I think there should be added to that, "or other focal infections."

"The lower respiratory sequelae of these are chronically enlarged lung root zones and an infiltrated bronchial tree."

In other words, an increased density at the root of the lung. That is a term that practically amounts to what is said here, and is perhaps more easily clinically demonstrated. One of the things we have to do in making out physical signs in the chest is to demonstrate increased density at the root of the lung.

"The X-ray appearance and physical findings are often very confusing and difficult to interpret.

"Chronic lower affections such as tuberculosis, bronchiectasis and certain forms of bronchitis, often have a greater tendency to diminish or recover when the upper respiratory tract is freed of the above mentioned abnormalities."

I think that is a very remarkable condensation of an important subject. I have one or two brief comments. Dr. Pritchard took this up on the basis of non-tuberculous disease. He said that some of these patients had been diagnosed tuberculosis that were not. I want to say that that is the beginning of it, and that a great many of these become tuberculous for the reason that their upper respiratory tract lesions are not taken care of. In our sanatorium, where we have had several thousand cases of positive tuberculosis in the adult, we look for and expect to find a chronic lesion of the upper respiratory tract, uncorrected, and it is very rarely

that we do not find it. Now it is my opinion, backed by fifteen years' experience in the subject, that if the upper respiratory tract condition had been corrected, fully 50 or 60 per cent of the inhabitants of tuberculosis sanatoriums would never have been there. I may be wrong, but it is difficult to prove, and I offer it to you for what it is worth. It certainly is an important item in the cause of tuberculosis.

One other thing which is not particularly mentioned by Dr. Pritchard, is the explanation of the apical form of pulmonary tuberculosis from tonsillar infections. This has been studied very carefully by Dr. Van Zwaluwenburg of Ann Arbor, and it has explained many things about the pathology and clinical course of tuberculosis more satisfactorily than it was ever done before. This has not been generally accepted, but I believe it will be. Like other clinical phenomena, it is difficult to prove, but the frequency with which we see demonstrable with the X-ray plates chains of calcified gland connected with the tonsil and tip of the pleura, and the difficulty of explaining the onset of apical tuberculosis in any other way, together with the frequency with which tuberculosis is found in the tonsils—patients having this apical tuberculosis and not bronchial gland tuberculosis—leads us to believe that a strong case can be made out for the tonsillar etiology of cases of purely apical tuberculosis.

INSOLATION ENCEPHALITIS*

EMIL AMBERG, M. D., F. A. C. S.
DETROIT, MICH.

In the *Alienist and Neurologist* Vol. XXXIX, No. 4, 1918, I reported a case of possible insolation. In this article I mentioned the various symptoms which the patient, then 36 years old had exhibited. The patient, a workman, had been brought in an unconscious state to Harper Hospital, July 31, 1917. The temperature at 5:45 p. m. (rectal) was 108.6. He had edema of the lung, rales over both lungs, frothy sputum, he was intensely cyanotic and in extreme dyspnea. There exists a discrepancy between the recollection of the patient and that of the superintendent of the factory. The latter claims that a disturbance existed at a previous date, which cannot be fixed with certainty, but seems to be approximately eight weeks previous to the sunstroke when "the patient acted as if dazed, stupid, like dopish, could not walk straight." The patient, however, claims that he felt well until the day of the sunstroke but that he fell on the left side of his head two weeks before the time of the sunstroke. Among the symptoms which the patient represented was nystagmus. He has repeatedly been examined during the course of the last six years. It occurred to me during these years, that there must be a direct connection between the attack of sunstroke and the disease exhibited by the patient. Since the time that I was asked to examine the patient until now, I thought that the Barany

*Read before Section on Ophthalmology-Oto-Laryngology, M. S. M. S., Grand Rapids, Sept., 1923.

tests might be able to help to clear up the conception of the disease. I was fortunate to have the opportunity to have the patient examined by Lewis Fisher of Philadelphia and later by Professor Barany of Upsala.

The hospital record, September 24, 1917, when patient was re-admitted, says in part:

Central Nervous System: Up to eight weeks ago no paralysis, tremor, paresthesia, hyperesthesia, atrophy, hallucinations, illusions, ulcerations nor difficulty in locomotion or speech.

September, 1917, Dr. Wendel established the following:

Ears: No evidence of any suppurative condition, past or present. Patient has slight deafness, more marked on left.

Spontaneous horizontal nystagmus (with slow quick component) first degree to both sides. Nystagmus varies, at times becoming slightly wild and movements coarse. On rotation ten times, spontaneous nystagmus to side stimulated is increased, while to the opposite side, spontaneous nystagmus disappears for fifteen seconds. Nystagmus is not labyrinthine.

November 28, 1917, Dr. Wendel and I established among other things the following:

To right: Sometimes a quick and slow component, sometimes even components.

Nystagmus much more marked when looking to left than when looking to right.

No nystagmus when looking straight forward, but nystagmus when looking upward.

After turning three times to right: Nystagmus to left of vestibular type.

After turning three times to left: Nystagmus to right.

Pastpointing on turning.

Romberg: Falls to right.

In December Dr. Crane found:

1. Eyes turned to the left: Rapid, fine nystagmus at times. Occasionally a slower nystagmus with a quick component to the left.

2. Eyes to the right: Coarse, slow nystagmus, with quick component to the right.

3. Eyes turned directly upward: Nystagmus varies: (a) Sometimes there is a vertical nystagmus with the quick component upward. (b) Sometimes there is a rotary nystagmus.

4. No vertigo.

5. No falling.

6. No pastpointing.

VESTIBULAR TEST

1. Rotated 10 times to left in 20 seconds: Head 30°. Nystagmus with quick component to the right for 36 seconds. Vertigo present.

2. Rotated 10 times to right, in 20 seconds: Head 30°. Nystagmus with quick component to left for 34 seconds. Vertigo present.

3. Rotated 10 times to left, in 10 seconds:

Head 30°. Pastpointed to left four times with each hand.

4. Rotated 10 times to right, in 10 seconds: Head 30°. Pastpointed to right, one time with right hand, and two times with left hand.

5. Rotated five times to left, in 10 seconds: Head 90°. Patient fell to left but felt as though he were falling to his right.

6. Rotated five times to right, in 10 seconds: Head 90°. Patient fell to right but felt as though he were falling to his left.

January 26, 1922, Dr. Lewis Fisher of Philadelphia kindly presented the patient to a post-graduate class and found the following:

TESTS OF THE VESTIBULAR APPARATUS SPONTANEOUS NYSTAGMUS

Looking to RIGHT

Horizontal Nystagmus to right.

Looking to LEFT

Horizontal Nystagmus to left.

Nystagmus, yes.

Looking UP

Vertical Nystagmus.

Past-pointing, no.

Looking DOWN

No Nystagmus.

Falling, no.

Romberg, very slight.

Turning head to right, slightly increased.

Turning head to left, slightly increased.

Attempt to overthrow, spasticity of muscles.

TURNING

To RIGHT, Nystagmus to left.

Amp. large, rapid.

Duration 40 sec.

Vertigo, 10"

To LEFT, Nystagmus to right.

Amp., large, rapid.

Duration, 35 sec.

Vertigo, 8"

CALORIC

Douche RIGHT

Amp., 0.

After 4 min.

Head Back, Nystagmus to right.

Amp., good, rapid.

Douche LEFT

Amp. 0.

After 4 min.

Nystagmus, tendency right conjugate deviation.

Head Back, Oblique.

Amp., good, rapid.

No Past-pointing.

Fisher came to the conclusion that we have to deal with multiple sclerosis.

"The cerebellum is not affected because the patient does not pastpoint, otherwise he would have a completely destroyed cerebellum. The stimuli do not go through. The pedunculi are affected by a process in the brainstem involving some of the pedunculi of the cerebellum, pons and medulla. The deviation is not sufficient to determine right or left side. Sunstroke was the match that exploded the powder barrel."

I had the good fortune to have Barany while he was giving a post-graduate course in Detroit, December, 1922 present the patient to the class. Barany found that the patient had a lasting spontaneous nystagmus when the head was bent to the side as he described it first in 1913.

When the head was bent to the right there occurred a lasting horizontal nystagmus to the left and vice versa when the head was bent to the left a horizontal nystagmus to the right. Barany has seen this phenomenon in multiple sclerosis, also when a tumor of posterior cranial fossa was present, also once in vestibular labyrinthian attacks of dizziness. In this case Barany thought of multiple sclerosis on account of the spontaneous nystagmus which was always present and on account of the absence of tumor symptoms. One must think that the phenomenon is caused by lesion of the otolith apparatus, but how is still entirely unclear. Barany cannot express himself concerning the etiology, insolation, as he has absolutely no experience in this respect. (Letter).

August 19, 1923. The patient says that he felt bad during the first two years of his sickness but that he improved steadily during the last four years. There seems to be no tremor of the hands. He does not complain of headache or dizziness. He is the father of four children, among them a girl two years and eight months and a boy seven months old. He stated again, that his sickness began with the attack on July 31, 1917, that he was walking in the yard when he felt something like a wind approaching him that he then felt pain on top of his head and something in the right parietal region and fell down "like dead." The nystagmus persists. For the last one and one-half years he is doing manual work as a laborer.

F. Kobrak (Practical Otology for Physicians 1918, page 91) says that we find in multiple sclerosis a normal reaction of the vestibular nerve and mostly horizontal nystagmus with a slight rotary component. Frequently there is also a vertical nystagmus especially when looking upward. Without causing violent symptoms, there may be attacks of transitory deafness and lack of vestibular reaction with complete or almost complete recovery.

RESUME

Symptoms which are or have been present:

1. Pain in right parietal region, in right and somewhat in middle occipital region, and in right eye.
2. Nystagmus.
3. Transitory abducens paralysis.
4. Fundus changes, right disc partially pale.
5. No double vision.
6. Field of vision: normal.
7. Double facial paresis. Face appears a little mask-like.
8. Tongue, when shown first, deviated a little to left side, then adjusted to middle line.
9. Thick speech.
10. Adiadosokinesis right hand.
11. Weakness of right hand compared with left.

12. Absence of abdominal reflexes.
13. Exaggerated patella reflexes.
14. Motion in left leg uncertain.
15. Weakness in both legs.
16. Babinski positive on right.
17. Absence of tremor.
18. Static ataxia.
19. Walked distinctly to right.
20. Romberg: sways to right.
21. Labyrinths react.
22. Pastpoints on turning.
23. Moderate diminution of hearing in left ear, very little on right.
24. Wassermann negative.
25. Some symptoms noticed before sunstroke, July 31st?
26. Patient claims that disturbance existed only since he worked in hot weather in the open.
27. Patient says that he feels better in summer when the weather is cool.

SUMMARY

The whole symptom complex resembled somewhat that of multiple sclerosis. It was, therefore, only natural, while trying to elucidate the disease entity, to consider the same from the following points of view:

1. Did the patient suffer from a potential or latent multiple sclerosis before the sunstroke?
2. Did a multiple sclerosis develop after the sunstroke, and was the sunstroke the only responsible factor?
3. Did the sunstroke cause pathological changes in the central nervous system which are similar to those in multiple sclerosis but have no connection with multiple sclerosis?

When we consider the clinical symptoms and the pathological changes in multiple sclerosis we must come to the conclusion that a multiform and varied picture presents itself, which does not always, it would seem, furnish sharp and distinct features.

Oppenheim states that multiple sclerosis can exhibit the picture of spastic spinal paralysis, or there can be a combination of spastic spinal paralysis with partial atrophy of the optic nerve. Also hemiparesis spinalis may be present. In other instances the bulbar symptoms come to the foreground, or the picture of amyotrophic lateral sclerosis may be seen. In some patients who afterward showed multiple sclerosis Oppenheim could first establish an acute inflammatory affection of the medulla. These and other cases showed plainly that multiple sclerosis can develop from a post-infectious disseminated myelo-encephalitis. Oppenheim states that multiple sclerosis may be combined with tabes dorsalis (Westphal, Mills) with paralysis agitans (Oppenheim and Jolly) with infantile myxedema (Raymond-Guillain)

with syringo-myelia (A. Schueller). A case diagnosed by Westphal as multiple sclerosis presented at autopsy a tumor of the thalamus opticus. Furthermore, Oppenheim states that there exists a general affection of the blood vessels of the central nervous system of probably toxic origin, which creates a symptom complex which resembles very much multiple sclerosis but which is not caused by sclerotic foci but by multiple cerebrospinal foci of softening with secondary degeneration of the fasciculi in the brain and spinal cord (Oppenheim). Also encephalomalacia multiplex, caused by arteriosclerosis can present symptoms similar to those of multiple sclerosis. The variety of the histologic pictures in different cases of multiple sclerosis caused Oppenheim and also Bornstein to express the opinion, that a distinct unity of the anatomical process cannot be assumed.

Cadwalader and McConnell say in an essay on symptoms of multiple sclerosis that "for the purpose of logical discussion it is necessary to state briefly that the clinical and histological evidences that have been recorded up to date seem to us to be strongly in favor of the view that the disease possesses a distinct entity, and that it is essentially infectious in origin and inflammatory in character not withstanding the fact that there is considerable evidence to show that the symptoms of multiple sclerosis may be produced by other diseases."

Oppenheim states: "Some authors explain the symptoms of insolation by hyperemia of the brain; others by thrombus and multiple capillary hemorrhages in the medulla oblongata, etc., yet also anemia, edema of the pia, meningitis and finer changes in the cells have been found respectively surmised. The clinical symptoms of the so-called heatstroke are quite varying. For instance, increase in temperature, headache, mental disturbances, loss of consciousness, respectively, deep coma with considerable rise in temperature, paralysis of a paralytic or hemiplegic character, disturbances of speech, ataxia, etc."

Lambert says in part: "The meninges of the brain are congested, and there is more or less abundant subpial fluid. The brain itself is usually firm and not congested, with sometimes a little bloody fluid in the ventricles. The membranes of the spinal cord are congested, the cord being firm and about normal in appearance. In the minute cellular structure of the brain we find changes which are much more constant and which are fairly characteristic."

"Dr. Ira Van Gieson has described these lesions in the neurons of the brain and cord, as an acute parenchymatous degeneration of the ganglion cells best shown by the Nissl stain and counterstain with eosin. The appearances seem to be more often found in the anterior horns of the spinal cord where the changes do not seem to have advanced so far as in the cerebral cortex and cerebellum."

Under complications, Lambert mentions that meningitis and encephalitis are not uncommon complications. Delusional insanity with ideas of persecution and hallucinations of various kinds are frequently observed.

CONCLUSION

Syphilis of the central nervous system may cause the most varied symptoms, encephalitis lethargica may act in a similar manner. The various pictures of a disease of the central nervous system depend mainly on the localization of the lesion. There appears to be sufficient evidence to prove that grave and lasting injuries to the central nervous system can be caused by insolation. It is not surprising that such disturbances may be of a nature which show symptoms similar to those caused by multiple sclerosis and kindred diseases. This, however, does not permit us to assume that we have a typical multiple sclerosis before us.

It may not be impossible that the clinical entity which goes at present under the name of multiple sclerosis must be divided in the future under many headings. As a parallel may be mentioned the consideration of the Meniere's symptom complex. This, however, is beyond the scope of this paper.

It is my opinion, that the pathology and clinical symptoms of sunstroke justify the classification of insolation as a disease of the nervous system. The proper name, for the type exemplified by this case, might be "insolation encephalitis," not as a complication but as the disease itself.

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DISCUSSION

DR. THEOPHILE KLINGMANN, Ann Arbor: From a diagnostic standpoint, Dr. Amberg's case is very interesting. It brings us back to the old idea that multiple sclerosis may possibly be caused by exposure to extreme heat or extreme cold. That is the idea you find in some of the old books, and is even adhered to at the present time by some neurologists. Perhaps that is the foundation for some experiments made by exposing animals to extreme heat or extreme cold and in that manner producing a complex which is not unlike a multiple sclerosis. But in all probability it is not that at all—it has not been proven at post mortem—but what has been shown is that these animals have an acute hemorrhagic encephalitis.

In this paper that Dr. Amberg has given us we have the history and the results of the examination, and a number of symptoms which cannot be accounted for by this particular pathology. In the first place, the most important symptoms that we have here (we can rule out a pure acute hemorrhagic encephalitis) would be the involvement of the pyramidal tract. The observation that the patient had a Babinski reflex means the involvement of the pyramidal tract. The hemorrhages in this type are superficial, they are cortical, they do not involve the deep tracts. Then there is the persistent loss of the umbilicus reflex. That is not the case in heat stroke. You may find it present immediately after the stroke because of the general lack of function of the cerebral component of this particular reflex, but this is one of the earliest symptoms of multiple sclerosis and is almost constantly present.

Another interesting point was the eye findings which Dr. Amberg has described, that is, the paling of the disc of one of the eyes. I did not hear him mention anything about the visual field. He says the field of vision was normal. Whether he means in the way of examination for color fields, I do not know—or for scotoma. If this patient has a positive scotoma—and I rather suspect that is true from the condition of the eye described, I would not hesitate, with those three symptoms, to make a diagnosis of multiple sclerosis. I think they are pathognomonic.

However, we cannot account for all of the symptoms under this head. In the first place, extreme heat retention, present in this case in the beginning, is a constant thing in heat-stroke. It does not occur in multiple sclerosis. There are not cases of heat-stroke without that temperature retention. So you cannot place the case in any one particular group.

Another thing I would like to call attention to is the history of some previous condition a long time before this particular incidence occurred—the man staggered and was observed by his employer and was supposed to have been drunk. That was not the case, as was probably proven later.

In going over the chief symptoms of heat-stroke the first and most important one is the heat retention within the body. Sometimes this is known as sun-stroke. Of course, it is simply retention of heat

—the particular rays have nothing to do with the condition. The temperature usually goes very high. In about 50 per cent of heat-stroke cases there are convulsions. There were no convulsions recorded in this case. They are usually epileptiform in character—they may be of the Jacksonian type. One can account for that, because it depends entirely upon the location of the lesion. It may be scattered, or localized. The hemorrhages may be small, or they may be larger—they vary. Other spasms may be present—of the pharynx, the diaphragm, etc. You may also have fibrillary twitchings, or there may be coarse tremor. Nystagmus is nearly always present, at least early in the condition. In the differential diagnosis the type of nystagmus is rather important—whether it is purely a searching movement, whether it is a pseudo-nystagmus, or a true nystagmus. The pseudo form occurs in about 50 per cent of cases of multiple sclerosis. Pseudo-nystagmus is present in a great majority of cases of heat-stroke. True nystagmus is present in about 12 per cent of cases of multiple sclerosis, and rarely ever present in heat-stroke. Of course, in heat-stroke we have various palsies—hemiplegia, monoplegia, bilateral facial paralysis, etc., but these are usually transient. As soon as the acute symptoms disappear, unless you have a localized, large hemorrhage, they do not persist. In the same way you have aphasia, dysarthria, and perhaps all of the symptoms which would come under the head of epibulbar palsy, but usually transient.

The cerebrospinal fluid is important. In heat-stroke the cerebrospinal fluid is usually obtained under tension. This report on the cerebrospinal fluid was negative. I wonder if it was negative from the standpoint of cell count, or chemical tests, or whether it just means it is negative to the Wassermann. In heat-stroke the cerebrospinal fluid is seldom negative. In the first place, you have a leukocytosis; later this changes to a lymphocytosis. It may persist for a long time, or it may disappear within a week or two. It is nearly always under pressure, and it stands to reason it should be, because you do have an increase in cranial pressure in heat-stroke. You have an oedema in connection with the rest of the pathology that has been mentioned.

As to the mental signs, usually in the beginning they are severe, amounting to coma, a marked clouding, with later a delirium which gradually clears up in a short time, although a certain amount of psychic disturbance may continue in the form of hallucinations, but these usually are not present.

Formerly, this condition was regarded as either a serous meningitis, or a meningeal encephalitis. I believe the symptoms which would lead one to regard the involvement of the meninges—the pathology underlying these irritating symptoms which would refer to a lesion of the meninges—are usually due to pressure; that there is actually no involvement of the meninges in heat-stroke; that the condition is really not a meningitis, but it is a true encephalitis with hemorrhage. In other words, I have placed heat-stroke under the heading of acute hemorrhagic encephalitis, and I think you will find that is the contention of most writers of recent date.

I have here a tabulation of the symptoms which Dr. Amberg presented. He speaks of abductors paralysis. That would come under the head of a bulbar lesion and it is usually transient. Of course, we must remember that in multiple sclerosis many of these symptoms are quite transitory, that in all probability they are dependent upon a temporary circulatory disturbance, either arterial spasm or an oedema in a region where a new contact is, being formed.

I myself am uncertain whether multiple sclerosis is at all an inflammatory process. I doubt it very much. I have my own ideas about the pathology, although I am not ready to exploit them just yet. But the main point is this, that we know that multiple sclerosis is increased, there is an exacerbation of multiple sclerosis, when patients are exposed to extreme heat or cold. They are much better in a moderate temperature.

In this particular case there are certain symptoms which cannot be accounted for by heat-stroke. I believe therefore from this analysis that the condition is one of perhaps more or less long standing, if I may use that expression, of a moderate type, that it is progressive, and in addition that exposure to extreme heat simply caused an exacerbation of the condition with a temporary oedema and possibly some hemorrhage such as you would get in acute hemorrhagic encephalitis.

DR. EMIL AMBERG (closing): I thank Dr. Klingmann for his very liberal and fair discussion. I think the subject requires a great deal of study in the years to come.

TEMPORAL VARIATIONS IN CEREBRAL LOCALIZATION

Medical students have been taught for some time that the cerebral centers which originate voluntary motor impulses are located in the ascending frontal convolution immediately in front of the precentral fissure, a center being distinguishable for each muscular grouping of the body. The importance of this doctrine is exemplified in the modern surgical treatment of many cases of jacksonian epilepsy. By trephining the skull over the affected center and removing the source of irritation there, such as a meningeal tumor or a spicule of bone, some phenomenal cures have been instituted, attesting the great significance of the doctrine of cerebral localization of motor function in practice. More recently, however, physiologists have begun to question somewhat the validity of the experimental evidence commonly adduced in this connection. There were reports that the responses elicited from a given cortical center were not always the same; thus, if a point giving a certain response was stimulated immediately after a previous stimulation, the result in respect to motor response was sometimes altered. In other instances observed by competent experimenters, successive stimulations of a cortical point resulted in dissimilar movements, after intervening stimulation of other areas. Some of these "deviations of response" involved changes as great as that from finger to shoulder movements and even overlapping of the face and arm areas.

Thus there has arisen some tendency to discredit anatomic localization of the motor function centers in the brain. Summarizing the situation, Lashley¹ of the University of Minnesota has pointed out that possibly each cortical point is capable of calling out a primary

reaction which is relatively stable, although capable of temporary modification: it is possible that the reaction elicited from each motor point is wholly dependent on previous conditions of stimulation, and that apparent anatomic localization within the motor area arises only through the relative constancy of dynamic conditions within the time limits of the experiment; or the truth may lie somewhere between these extremes, in a gross anatomic localization within which the finer movements are determined by transient physiologic conditions.

In Lashley's own recent observations of the effects of electrical stimulation in the region of the precentral gyrus of the monkey, in each test the reactions were almost constant, subject to slight deviations resulting from the order of stimulation. In the different tests, the general fields from which movements of the face, arm and leg segments were elicited tended to remain constant, although the borders of the field were inconstant. Within the arm area, stimulation of the same point in different tests resulted in widely different movements, and at different times the same movement was obtained from widely separated and shifting areas. The results suggest that within the segmental areas the various parts of the cortex may be equipotential for the production of all the movements of that area, and that the particular movements elicited in any test depend on the temporary physiologic organization of the area rather than on any point-for-point correspondence between pyramidal and spinal cells. It cannot be denied, however, that there is some morphologic basis for the differentiation of function in the larger segmental divisions of the gyrus.—*Journal of A. M. A.* Oct. 20th.

1. Lashley, K. S.; Temporal Variation in the Function of the Gyrus Precentralis in Primates, *Am. J. Physiol.* 65:585 (Aug.) 1923.

UNIVERSITY CLINICS

Clinics will be held at the University Hospital, Ann Arbor, by members of the staff, on the second Wednesday of every month from November to July inclusive. Visitors will be taken upon ward rounds in the several services at 9 a. m. Later in the forenoon, and in the afternoon and evening there will be clinics and demonstrations. Notices of every meeting will be mailed in advance. Should you not receive your notice, come anyhow.

THE JOURNAL IS YOUR FORUM—
WE INVITE YOU TO UTILIZE IT
FOR THE EXPRESSION OF
YOUR VIEWS ON MEDICAL SUBJECTS

The Journal

OF THE

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The Society does not hold itself responsible for opinions expressed in original papers, discussions, communications, or advertisements.

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NOVEMBER, 1923

Report Malpractice Threats Immediately to Doctor F. B. Tibbals, 1212 Kresge Building, Detroit, Mich.

Editorials

TO AUTHORS

During our recent Annual Meeting there were some seventy-five scientific papers that were read before our several sections. These papers are all for publication in The Journal. Having read a paper, the author is rightly interested in its early publication. Therefore the following statement is made for their information.

On account of financial limitation, The Journal can publish about eight papers each month. It then is very evident that there must be a delay of some eight months before some of the papers that were read at our Annual Meeting appear in our Journal.

In the selection of scientific articles it has long been the editorial policy to cause each issue to contain a variety of papers covering the general and special branches of practice. This is done in order that those interested in special work will find some article that will be of personal interest to them.

Proofs of articles are sent to the author before the paper is published. When proofs are

sent they are accompanied by a reprint order blank, thereby giving the author opportunity of ordering as many reprints as he desires.

We desire to give the assurance that your paper will be published just as soon as possible. There are no favorites. The only rules that govern are: (1) Variety of subjects. (2) Seasonal application. (3) Space limitation. It is felt that this statement should be made for the information of those concerned.

DOCTORS AND PATIENCE

The title of this editorial is the title of a book that is written by Dr. Harold M. Hays of New York city and just issued by The Cornhill Publishing Company of New York. We are not frequently given to utilizing these editorial columns to review books. In this instance, however, we feel that there exists an exception. That exception is the realistic discussion by the author of pertinent medical problems confronting all doctors, and especially those who are just starting out in practice. The second exception is that we feel that a wonderful amount of good will be accomplished if this book receives nation-wide distribution. We are eager to see that it obtains a wide distribution in Michigan. It is a timely and human book.

Dr. Hays has put, in an interesting manner, the problems that the younger graduates meet in the early years of their careers. Vividly does he point out the fundamental principles of medical and moral ethics. In a similar manner does he handle fee splitting, patenting of instruments, reading of medical journals, affiliation with medical societies, research work, business methods, case records and similar allied topics. We are aware that there exist a number of texts and articles that have been written upon these subjects and much wholesome advice imparted. Dr. Hays has, however, woven them into the form of a novel, thereby surrounding them with a human, personal application. He inspires ideals by indicating how the young man can have ideals, stick to them and be successful.

The main character is Dr. Snaith, who has just completed his internship and enters practice. The vicissitudes of his first year are realistically described so that almost every doctor, recalling his first few years of practice, will find a narrative of personal experiences. The chief character is carried on to final success and of course there is interwoven in his struggles a charming love story.

We are going to say nothing more about the story or further contents of this book. We want the doctors of Michigan to read this

book. We want you to place a copy in the hands of your younger medical friends. Attending men on hospital staffs would do well to cause this book to be their Christmas gift to their internes. The wholesome inspiration that emanates from this book is what we need and we are more than pleased that Dr. Hays has provided it.

ARMISTICE DAY

On November 11th, we celebrate the fifth anniversary of the signing of the Armistice that terminated the World War. It seems but yesterday when the news was broadcasted that the war was ended. Much has happened in these fleeting five years. The tribulations of war are commencing to become dimmer. We have forgotten about meatless, sugarless, breadless, gasolineless days. Most of us have spent or traded our Liberty Bonds. Our War Savings Stamps have been turned in for some damphoul thing. We are rapidly forgetting about that war. Are we forgetting those who made the Supreme Sacrifice? Are we forgetting those who are still among us, but who are handicapped by their wounds and physical disabilities? Heaven forbid!

The Unknown Soldier rests in his Valhalla. The bronze tablet, erected by our State Medical Society, in memory of those of our members who gave their lives, still hangs outside the entrance to the Medical building on the University Campus in Ann Arbor. The poppies still grow in Flanders. The crosses are still white at the head of the graves of those who lie asleep in French soil. Our Flag still flies over those cemeteries. But is this all that we owe to our dead and wounded? Dare we commence to forget?

Armistice Day should serve to help us to remember. Armistice Day should witness the subscription of loyal and sincere tribute to our soldier dead. Armistice Day should witness our contribution of part of that day to the performing of some act that will lighten the burden and gladden the heart of some one or more of Our Boys who are silently paying the price by reason of his wounds or disabilities. Armistice Day should witness a flower, a message or personal word being given to her, mother or wife, whose son or husband, did not return. Armistice Day, at 11 o'clock should find us pausing and paying silent tribute to all those dead and living who made Armistice Day possible.

So we urge that on this fifth anniversary of the Signing of the Armistice, every one of our members and readers, as their patriotism and judgment directs, observe to a full degree the celebration of that day.

AMERICAN MEDICAL ASSOCIATION BULLETIN

By action of the House of Delegates of the American Medical Association, the Bulletin of the Association, which is the official journal of the House of Delegates, is to be sent to every Fellow of the Association. We quote the following from the October issue:

The report of the Secretary presented to the House of Delegates at San Francisco suggested that the American Medical Association Bulletin be sent to all Fellows of the Association. This suggestion was endorsed by the Board of Trustees and by the Reference Committee on Reports of Officers, and was favorably acted on by the House of Delegates. Beginning with this number, therefore, the Bulletin finds itself with a circulation of approximately ten times that which it formerly enjoyed. It has aspirations to be ten times better and more serviceable than heretofore. Its ambition can be realized only through the active co-operation of those to whom it will be sent and who are supposed to read it; namely, the more than 54,000 Fellows of the American Medical Association and the officers of constituent and component medical societies. To this great group of about 60,000 of the country's most progressive and influential physicians, the Bulletin appeals for such assistance as will enable it to satisfactorily meet the purposes it is intended to serve.

NOT FOR SCIENTIFIC PAPERS

No strictly scientific articles will appear in the Bulletin. The Journal of the American Medical Association and five special journals published by the Association are adequate for presentation of material in that field. The columns of the Bulletin are open to the Fellows and members of the Association for the discussion of questions bearing on medical organization, medical economics, medical ethics and other subjects not strictly scientific in character which may be of general interest to physicians. It is especially desired that the officers of state, district and county medical societies, chosen as they have been by their Fellows to occupy positions of leadership, will utilize the Bulletin for discussion of organizational problems and to describe the methods they have found valuable in increasing professional zeal and organizational efficiency.

In point of size, the Bulletin will not be a very pretentious publication and so cannot accept very long articles; but it will be large enough to accommodate several contributions of reasonable length each month and, at the same time, to carry items of interest concerning the work of the American Medical Association and its component and constituent societies. The Bulletin has no ambition to excel as a literary production and will make no claim to any great merit in that particular. Fellows who do not feel themselves to be finished writers need have no fear, in offering contributions, that its editors will assume a "highbrow" attitude and exclude their offerings because they do not stand out as gems of literature. Polite and understandable English will be all that is required, since the style and diction of the masters are not needed for an intelligent discussion between physicians of the subjects that should be discussed in the Bulletin.

Of course, all material that is submitted for publication will be subjected to editorial scrutiny and the usual editorial prerogatives will be exercised. The purpose of the Bulletin will be, however, to

foster polite debate and to have presented the varying points of view of the members of the American Medical Association, and thereby to aid in crystalizing opinion and bringing about permanent solution of questions and problems that need to be solved. To this end, contributions are solicited for the Bulletin from any Fellow or member who feels that he can offer helpful suggestion.

Those of you who are Fellows of the A. M. A., will find the Bulletin reaching you the first of each month. We urge that you read it. Then let the editors have your views upon medical problems and organizational activity. The Bulletin is your national forum—use it.

Those of you who are members of the A. M. A., but have not made application for Fellowship, we urge that you promptly take the necessary action to become a Fellow. You will receive the Bulletin as one of the personal benefits of Fellowship. Send in your application today.

JACKSON COUNTY ANNUAL CLINIC

The Third Annual Clinic of the Jackson County Medical Society was held in the W. A. Foote and Mercy Hospitals, in Jackson, October 16-17-18-19.

The following Clinical Program was carried out in detail:

October 16th

9 to 12 a. m.—Surgical Diagnosis. V. C. Lespinasse, M. D., Chicago.

2 to 5 p. m.—Genito-Urinary Diseases. W. F. Martin, M. D., Battle Creek.

8:00 p. m.—Lantern Slide Lecture: "Experimental Work on Reproductive Organs of Fowls and Small Animals." V. C. Lespinasse, M. D.

October 17th

9 to 12 a. m.—Neurology. C. D. Camp, M. D., Ann Arbor.

2 to 5 p. m.—Dermatology. Rollin H. Stevens, M. D., Detroit.

October 18th

10 to 12 a. m.—Chest Clinic. J. S. Pritchard, M. D., Battle Creek.

2 to 5 p. m.—Internal Medicine. C. E. Stewart, M. D., Battle Creek.

8:00 p. m.—Chicken Dinner and Dance. Address: "Relation of Doctors to Themselves and Organized Medicine." F. C. Warnshuis, M. D., Grand Rapids.

October 19th

9 a. m. to 5 p. m.—Surgical Clinical. Max Ballin, M. D., Detroit.

Committee in Charge of Clinic

Genito-Urinary—C. D. Munro, M. J. McLaughlin.

Neurology—C. R. Dengler, E. F. Lewis.

Dermatology—H. A. Brown, H. Porter.

Medicine—T. E. Hackett, C. Corley.

Surgery—E. C. Taylor.

President—J. C. Smith.

Secretary—D. Burr Marsh.

This is a splendid plan of organized County Society activity. For four days the doctors of Jackson convene in their home city and pursue a post-graduate course of clinical study and conference. As in the two previous years, abundance of clinical material was available as for instance, 13 major surgical cases were presented, 45 dermatological cases, 23 medical, 16 chest and some 20 neurological cases. These were carefully worked up and then presented and all recent knowledge pertaining to each case was discussed.

Our real medical problem today is getting to the people adequate medical service. This can be done only as the members of the medical profession are competent to deliver such service. Jackson county physicians are maintaining that competency by these clinics. Other counties might well emulate Jackson county's plan. That is what organized medicine needs.

INCREASED MEDICAL MEETINGS

A recent county announcement states that on account of the increase of medical meetings, particularly staff meetings of the various hospitals, it is decided to hold but one County Society meeting each month.

A simple announcement, but fraught with much import. Is organized medicine giving way to special fields, special local activity? It is conceded that we are almost "Medical Meeting to Death." If many men kept their "meeting dates" from three to four evenings a week would be reserved for attendance on some medical meeting. That is more than any active man can stand. But why, within a few years, all these meetings?

There are staff meetings, of which each hospital has one a month; Hospital Service meetings; Executive Staff Committee meetings; Public Health Clinic meetings; School Clinic meetings; Specialty Society meetings; District Council meetings and County Medical Society meetings. Meetings of every type galore. Small wonder we are wearing of them. Eagerly do we seek to eliminate and "cut down." In doing so why pick on the County Medical Society—the foundation of our organizational prestige and preservation? Foremost of all medical organizations and medical meetings, the County Society must maintain pre-eminent position. If curtailment of meetings are demanded do not permit the County Society to be the one to relinquish its leadership. Monthly hospital staff meetings are necessary. The

separate services conferences can be held the same evening and so too can the meetings of special societies be combined with the staff meeting. Again, we repeat, keep the meetings of your County Society as they have been and limit the other subsidiary organizational meetings.

Editorial Comments

Someone has observed that the largest doctor's signs always indicate the smallest doctor.

The question of the amount to which our dues should be raised will be determined to a degree by the patronage that our members give to those firms that advertise in the Journal. We have repeatedly stated that we cannot hope to have a substantial advertising income if we do not patronize those who use our advertising columns. A firm will gladly spend money for advertising, providing that it receives a fair return upon its investment. Business men will not buy advertising space in publications that do not bring them business. The expenses of the Journal and the Society may be lessened by a large advertising revenue. We cannot secure this income if you, Doctor, do not do your part and patronize those who advertise in your Journal. It is no more than fair that you give these business firms preference when you buy your supplies. Tell them that you are giving them your patronage because they do advertise in your State Medical Journal. Tell the detail man that you cannot give him an order because his firm does not use the Journal's advertising columns. If you will subscribe this support and co-operate in this manner, we will obtain greater advertising revenue. You in turn will not have to meet the otherwise certain deficit by paying much higher dues. Turn to our advertising pages. Become acquainted with our advertisers and then patronize them.

Speaking of patience, we do not know any better way to teach a boy patience than to assign him to the task of taking out the family milch cow to the pump in the valley for water twice a day during the months of January and February when the thermometer registers around the zero point. If you have never done it, try it. We still vividly recall the days when that task was ours. We know of nothing that will tax your patience in waiting until that cow has eventually cooled its tongue and mouth so as to take in its normal amount of water. You can become as exasperated as you want, with the wind blowing and feet numbing and your fingers freezing, that cow won't drink until she gets good and ready. Cussing does no good. You can't lead her away. You simply have to wait and in so doing you develop patience. Try it and see. You can correct your restless boy by assigning the task to him.

The joint committee on Public Health Education held a meeting in Ann Arbor on October 8. President M. L. Burton was elected chairman, Dr. W. T. Dodge, vice-chairman; Professor W. D. Henderson, secretary of the committee for the coming year. Arrangements were made to deliver health lectures to the students of the several literary colleges in the state. Plans also were adopted for the assignment of lectures before civic and social organizations.

The chairman of the Council was requested to urge county medical societies to assume an increased activity to bring about the holding of more of these public meetings in their respective counties. The committee will hold its next meeting in Detroit on January 16.

Speaker Moll has appointed the following committee on revision of the constitution and by-laws: J. G. R. Manwaring, Flint; W. J. Wilson, Detroit; T. F. Heavenrich, Port Huron. The committee is to bring in its report at the next annual meeting, to be held in Mount Clemens.

President Connor has appointed the following special advisory committee to the Michigan Commission of Health: Doctors J. G. R. Manwaring, Flint; George L. LeFevre, Muskegon; N. M. Allen, Detroit; J. D. Bruce, Saginaw; A. M. Campbell, Grand Rapids.

Daily papers still feature adrenalin as a wonderful new drug with remarkable life-restoring properties. It is endowed, according to the press, with most mysterious properties that will "raise the dead." The actual properties of adrenalin have been known for 50 years and used for at least 25 years. Such spasms of newspaper publicity emanate from some fool doctor, in an out of the way place or clinic, bidding for personal advertising. Now that adrenalin has had its day it's about time someone bursts forth on nitroglycerine or pituitrin. Of the two, pituitrin in obstetrics, should furnish an abundance of sensational copy.

Carrie Jacobs Bond has written a song and a line of it says: "You neber get no hittin till your haid's above the line. If you hyah yo foes attackin, you know you's doin' fine." There is a lot of truth in these words of a songster. If you are just traveling with the mob and in a rut, you arouse no personal interest. But—just as soon as you forge ahead, do something, attain something, your head raises above the mob—and then the "hittin'" commences. The assailants are usually the jealous, envious plodder, who seeks to retard and penalize your initiative. But you can rest assured that when the "attackin' begins" your are forging ahead—just ignore the knocker.

"Cancer" is the title of a new journal that is to be issued quarterly in the best interests of ascertaining facts regarding cancer and its treatment. The October issue is the first number. The editor is L. Duncan Bulkley, assisted by C. D. Daniels. The publishers are the F. A. Davis Company.

The Annual Conference of the Secretaries of State Medical Societies will be held in Chicago November 16 and 17. Presidents of State Societies are also invited. Organizational efficiency will be the general topic for discussion.

Correspondence

The Editor of the Journal of the Michigan State Medical Society:

Will you please announce in your Journal of the Michigan State Medical Society that the next regular meeting of the Chicago Orthopedic Club will be on Friday, November 7 at 8 p. m., Room 1308—30 North Michigan avenue, corner of Washington street.

A very interesting program is arranged. Instructive moving pictures of orthopedic operations

will be shown. A cordial invitation is extended to all those who are interested.

Telephone: Central 8500.

JOHN RIDLON, President.
H. B. Thomas, Sec. and Treas.

THE VENEREAL LAW

The Editor of the Journal of the Michigan State Medical Society:

I see by the last Journal that a physician of Grand Rapids was arrested for violating the venereal law and that the judge acquitted him. The physician should be congratulated for violating the law and the judge, also, for acquitting the physician. Physicians who have any respect for their patients will violate the law, which is the most absurd law in Michigan. It might interest the physicians of Michigan to know about the parentage of this law. When this law was in the formation stage there was a meeting of the State Health Commission and the druggists. A part of this law was left to the druggists and part to the Health Department to finish. That part of the law prohibiting physicians from giving treatment to their patient (except at the office) was left to the druggists, the Health Department having nothing to say about it. The druggists were looking to their own interest, not to the patients' or physicians' interest.

I would suggest that the Health Department call another meeting of the druggists, also invite Dr. Weil and Dr. Rockwell to this meeting. The doctors might possibly have some suggestions regarding this law, which could make it possible for physicians to respect.

H. A. BISHOP, M. D.,
Millington, Mich.

The Editor of the Journal of the Michigan State Medical Society:

Will you please answer through the columns of The Journal some of the following questions? The reason why I desire these questions answered this way is on account of the many inquiries made by my friends and acquaintances here in Brown City.

1. Is it possible to diagnose any existing disease conditions by means of the Abrams electronic device?

2. Has Abrams demonstrated any cases that he has cured?

3. What standing has Dr. H. Farnham, whose office is located at Virginia Park and 12th streets, Detroit, Michigan among medical men?

4. Is this Dr. Farnham a member of the Wayne County Society at the present time? Has he ever been a member?

5. What Medical School did he graduate from?

6. What kind of Electrical Reaction does a patient receive from Dr. Farnham's Electronic Treatment machine which he is selling for \$150.00?

There have been quite a number of people in this vicinity who have taken treatments from this Doctor and some claim that they have been benefited. A saleslady called today and tried to sell me a machine. It has a Violet Ray attachment or High Frequency current, and in addition had what she termed an Electronic current which possessed great curative powers. She also stated that they had cured a great many cases of T. B., Cancer and Syphilis. She claimed that this machine was not an Abrams machine but one which was greatly improved upon by Dr. Farnham and was called Dr. Farnham's treatment.

There are a great many people who contemplate buying one of these machines and I think that they should be advised as to whether they will receive any benefit from same. If you will please answer these questions or at least as many as possible I will greatly appreciate it.

Thanking you, I am,

Yours very truly,

Dr. R. G. Tuck.

REPLY

1. The so-called "Abram's Oscilloclast" and "Electronic Device" has been exposed by the American Medical Association. Write to the Secretary, 535 N. Dearborn Street, Chicago for pamphlet that imparts the details. Abram's theories and methods are not accepted as of value or merit in the diagnosis and treatment of disease.

2. The doctor mentioned is not a member of the Wayne County Society and we have no record of membership.

3. The A. M. A. Directory does not even list him as a doctor of medicine. Are you sure you have the correct spelling of the name?

4. We strongly recommend that no physician fall for the bunk that is being handed out about Abrams. Spend your \$150.00 for good journals or post-graduate work.—Editor.

State News Notes

COLLECTIONS

Physicians' Bills and Hospital Accounts collected anywhere in Michigan. H. C. VanAken, Lawyer, 309 Post Building, Battle Creek, Michigan. Reference any Bank in Battle Creek.

WANTED—Doctor for saw mill town in Lower Michigan, on trunk line road and good farming community. Free house, fuel and light; will pay \$600.00 for Company work. Good opportunity to build up good practice. Have good drug store. Johannesburg Mfg. Co., Johannesburg, Mich.

FOR SALE—Albion, Mich., 25 years established practice—physician recently deceased—modern Methodist College town, 9,000 population. \$100,000 hospital nearing completion; fine opportunity for physician and surgeon. Well equipped office and library; easy terms for quick sale. Address Mrs. W. C. Marsh, 303 E. Erie Street, Albion, Mich.

FOR SALE—X-ray machine and office equipment of the late Dr. W. E. Newark, Charlotte, Michigan. Mrs. Ida Berg Newark, 119 E. Seminary Street, Charlotte, Michigan.

Dr. F. C. Warnshuis, Grand Rapids, will read a paper, by invitation, before the District of Columbia Medical Society at its meeting in Washington on November 7.

Dr. Arthur Moll, son of Dr. Carl Moll of Flint has located in Grand Rapids and is associated with Dr. D. Emmett Welsh. Dr. Moll has recently returned from an extended post-graduate course abroad in Ear, Nose and Throat work.

Our sympathy is extended to Dr. G. H. Lynch of Big Rapids, whose son, aged 15, died suddenly, after a few hours illness on September 30.

The Committee on Public Health Education held a meeting in Ann Arbor on October 8.

Dr. J. S. Schembeck announces the opening of offices in the David Whitney building, Detroit, with practice limited to Eye, Ear, Nose and Throat.

Dr. R. S. Cron of Ann Arbor has become associated with Dr. C. H. Davis of Milwaukee, Wis.

Dr. B. Frielarnder of Detroit read a paper on Bloodsedimentation Test before the St. Louis, Mo., Medical Society on October 23.

Dr. S. Levin of Houghton has been appointed a member of Committee on Investigation and Prevalence of Goitre of the National Research Council. This is his second year of service on that committee.

Dr. Harvey H. Bemis has resigned from the staff of the Jefferson Clinic of Detroit and has assumed the position of Professor of Physical Diagnosis in the Detroit College of Medicine and Surgery.

The Michigan Trudeau and Tuberculosis Society held its fifteenth annual meeting in Flint on October 3 and 4.

On an appeal made to the Seattle Supreme Court by Lansing local authorities, the court sustained the ruling that unvaccinated children can be kept out of schools by health officers.

Dr. Eugene S. Browning attended the annual convention of the National Society of Urologists in Chicago October 19 and 20, before which body he presented a paper on the subject, "Acute Gonorrhea—Specific Urethritis."

Deaths

Dr. S. A. Snow—The medical profession of Michigan has again lost a member who belonged to that type made famous by the character of Dr. McClure.

A year ago was given to him a complimentary dinner to express to him the love and admiration that his colleagues united to give him for his devotion and administrations to humanity, of almost 50 years.

While he had only one child in his family, he brought up 26 boys in his community, some of whom are lawyers, and a few became doctors.

He had a mind as subtle as any lawyer. Had he chosen law as a profession, he would have been a Choate. He hated sham and dishonesty, and he had a command of satire and irony that could put to shame the most powerful hypocrite and it was more penetrating because it always was given with a smile.

After graduating at the University of Michigan he took up government work and was physician for an Indian reservation and had many talks with Sitting Bull, who chuckled over the way he had led General Custer into ambush.

For 44 years Dr. Snow served faithfully a large community around North Branch. At times his judgment was uncanny, but I learned that it was unerring.

He was a loveable companion and his wonderful personality will be reflected in the coming generation, because as you stood in his presence, you realized that he was one of God's chosen.

County Society News

BAY COUNTY

The Bay County Medical Society began their fall meetings, September 27, when Dr. J. Walter Wilson of Detroit gave an illustrated lecture on "Cardiac Arrhythmias."

October 8, Dr. Ed. Christian, superintendent Pontiac State Hospital, addressed the Society on the subject of "Mental and Nervous Disorders."

Both meetings were attended by large numbers of the profession and were highly scientific and interesting.

The Society recently adopted the A. M. A. auto emblem for their cars, the emblems being marked with the name of the Society. The adoption was made after traffic privileges were accorded them by the police department.

L. Fernald Foster, Secretary.

NOTICE

At a regular meeting of the Bay County Medical Society they went on record as not having, up to this time, endorsed Dr. S. E. Gustin of Bay City in his treatment of rheumatism by bee virus.

Book Reviews

THE NEW DIETETICS—John Harvey Kellogg, M. D., L. L. D., Cloth, 1021 pages. Price \$5.75. Modern Medicine Publishing Co., Battle Creek, Mich.

This book is the author's latest and in many respects, most valuable contribution to scientific literature.

Among the leading features of the work are extended tables showing the composition and food value of every ordinary foodstuff and of hundreds of prepared dishes, including the lime and iron content; tables showing the food requirement for persons of various occupations and all ages from one week to ninety years; exact information about the characteristics and special uses of all common foods; poisoned and diseased foods and the proper feeding of infants. "Medical Dietetics," the largest section in the book, fully describes the "milk regimen" and all other useful "diets" and "regimens," and the proper diet for all common maladies.

The new facts and methods in dietetics are fully set forth, and include much information found in no other work of the sort. The intelligent housewife finds the information necessary to enable her to "balance" the bills of fare of each member of her family for lime, iron and vitamins as well as protein, fats and carbohydrates, and thus to insure that each one is fully nourished.

THE CHEMICAL BASIS OF GROWTH AND SENE-SCENCE—F. B. Robertson, Ph. D., D. Sc. Price \$3.00. J. B. Lippincott Co.

At the present moment we are not in a position to interpret fully the phenomenon of life, and that is ground for hope rather than despair. We can see fairly clearly what type of physical and chemical knowledge will be requisite for this interpretation, and we realize that the merest rudiments of this essential knowledge have been so recently acquired that they are yet unfamiliar tools, of which the consequences are barely apprehended.

In this volume a preliminary essay has been made toward an interpretation of growth as based upon certain chemical processes of development. The author takes up first the question of the Physiral Manifestations of Growth in Man, with the various aspects of pre-natal and post-natal growth, and follows this with a section devoted to the Physical Manifestations of Growth in Animals and Plants. Following this there are sections dealing with the Reproduction of Unicellular Organisms; the Substrates of Growth; the Retarding Influences in Growth; Differentiations and Development; the Nutrient Level in Relation to Growth; Hyper-Differentiation (Cancer); the Influence of Special Agencies of Growth; and lastly, Growth and Evolution. An important feature of the book is the Appendix, with its table and methods for the computation of curves of autocatalysis.

EXERCISE FOR HEALTH AND CORRECTION—F. D. Dickson, M. D., and R. L. Diveley, M. D., 127 pages, 112 illustrations. Price \$2.00. J. B. Lippincott Co.

This book stands almost alone in its particular field. There are many books on physical exercise, most of which are nothing but a jumble of miscellaneous exercises with no definite object. This book has been prepared for those who wish a scientific, progressive series of exercises which may be applied effectively for health and correction. It can be used as a complete course, or selections may be made to suit particular cases. This manual is of the greatest value to physical directors, doctors, nurses and the general public. Those who wish to correct in themselves faults of bodily health will find it a sure guide. The numerous illustrations show practically every movement of every exercise.

The Action of Arsenicals in the Body—Voegtlin and his associates in the Hygienic Laboratory of the United States Public Health Service have observed that certain compounds containing sulphur groups in the SH form are able to counteract the toxic effects produced by arsenoxid on trypanosomes and a representative mammal. They advance the theory that arsenic in certain trivalent forms is a specific poison for the SH group in the

trypanosome organism, and that arsenic causes death of the cells by interfering with the oxidative processes. Voegtlin and his associates concluded that the failures reported in the treatment of the later stages of syphilis are due to the fact that arsphenamin, neoarsphenamin and silver arsphenamin lack the essential penetrative power for the infected tissues, and for this reason, they do not reach the last parasites in sufficient amounts to cause their death. In the effort to secure a more complete sterilization of syphilitic patients in the more advanced stages of the disease, sulpharsphenamin, tryparsamid, and 3-amino-4-oxyphenol arsonic acid are suggested for trial as remedies of superior penetrative power. (Jour. A. M. A., Oct. 27, 1923, p. 1442).

Van Ess.—The Van Ess Laboratories, Inc., Chicago, put out "Van Ess Special Dandruff Massage" and "Van Ess Liquid Scalp Massage." "Van Ess" is sold with the claims that it will make hair grow and that it will stop falling hair in two weeks. The A. M. A. Chemical Laboratory reports that Van Ess Special Dandruff Massage is a perfumed liquid which separates into two layers on standing. The upper layer consists essentially of a petroleum oil which appears to be kerosene. The lower layer appears to be composed of water and alcohol containing small amounts of quinin sulphate, coloring matter and perfume. The Laboratory concludes that it is probable that a mixture of 35 parts of kerosene, 15 parts of alcohol denatured by the addition of two grains of quinin sulphate per fluidounce and 50 parts of water would have whatever therapeutic properties the Van Ess Special Dandruff Massage possesses. (Jour. A. M. A., Oct. 27, 1923, p. 1461).

The coming celebration of the fiftieth anniversary of the founding of the New York Laryngological Society, which as announced by the New York Academy of Medicine will take place Nov. 15, 1923, commemorates an event of unusual interest. As far as can be learned this organization now the Section in Laryngology of the Academy is the oldest society in existence of the department which it represents.

In connection with the celebration there will be an exhibition representing the important contributions made to the progress of Laryngology in the City of New York.

The Standardization of Ergot

ERGOT is one of the therapeutic agents of the galenical class which the medical profession has not abandoned in its progress toward accuracy and efficiency; and there are two good reasons why. The first is, of course, the definite, unmistakable action of the drug on unstriped muscle fiber; the second is the fact of standardization.

Ergot as it occurs in nature is of variable value on two counts—intrinsic activity when fresh, and permanence. The U. S. P. prescribes a method for the preservation of ergot and methods for the preparation of extracts from it; but no standard of activity.

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The test demonstrates the tonic influence of ergot on the smaller vessels. It consists in the administration of the material under test to cocks of the white Leghorn species. The activity of the ergot can be measured with a fair degree of accuracy by observing the effect of graded dilutions on the cock's comb. This effect is a darkening or blackening of the comb, a result of blocking of the smaller blood-vessels by the ergot in the blood.

We make no oxytocic test, for ergot is no longer used to any extent as an oxytocic agent, but rather, after labor, as a hemostatic when required.

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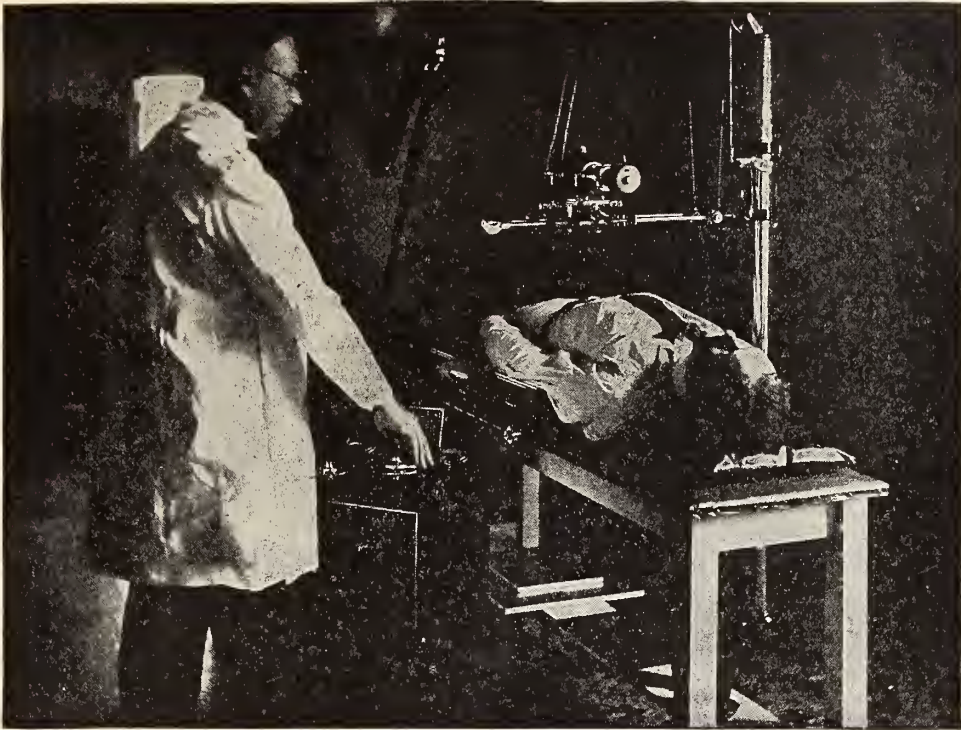
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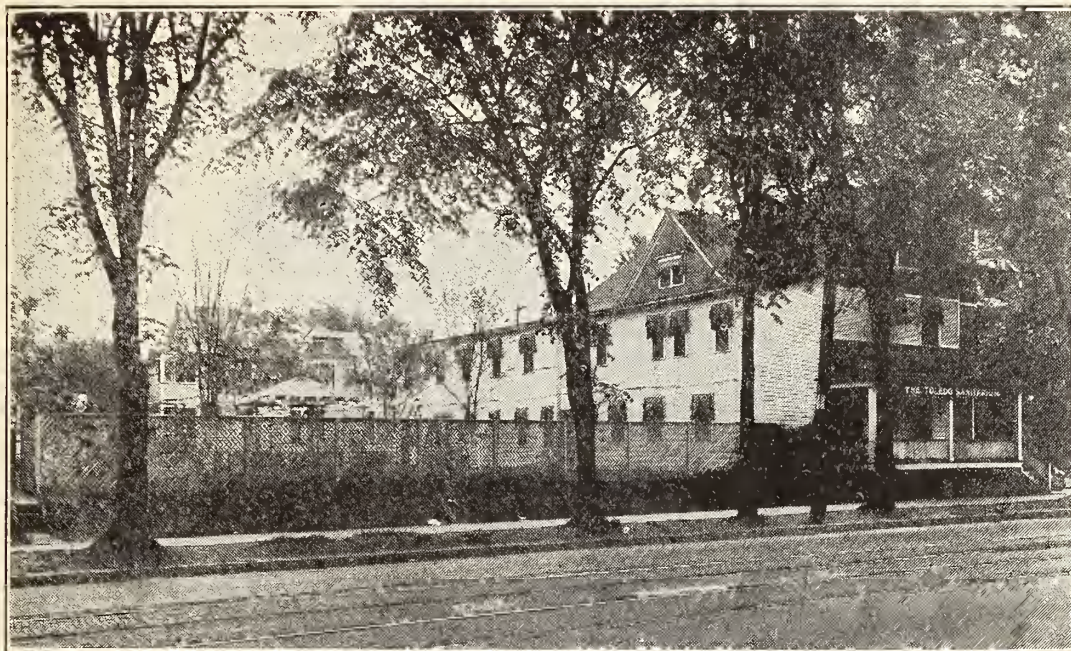
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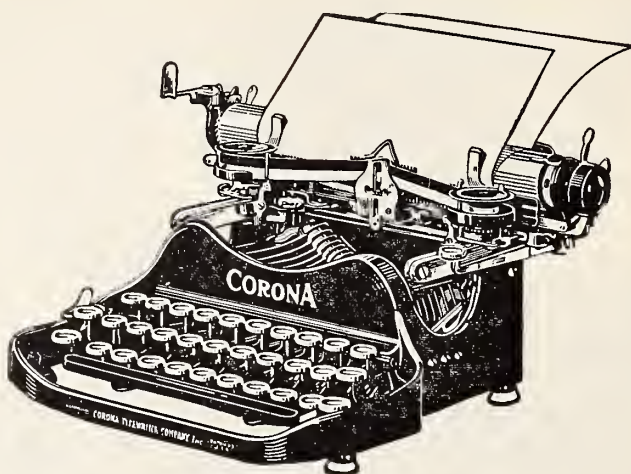
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The profession may well hail the new book by Dr. Aaron with the same respect in which it has received his former books. Dr. Aaron has won the confidence of American physicians by the manifold evidence he has given that he advocates and promotes scholarly investigations and circumspect practice. His high standing as a teacher and practitioner maintained during a busy and thoughtful professional activity of thirty years confirms the high expectations that are held with regard to the present publication.

"THE PHYSIOLOGY OF DIGESTION has been considered from the view-point of the clinician rather than from that of the physiologist."

This significant line occurring in the preface is indicative of the basic plan of the entire work. Throughout, it is the clinical side that is emphasized. Dr. Aaron was a pioneer in this field, his literary and professional activities for some thirty years playing no little part in bringing this specialty to the forefront of interest. His book reflects this ripe experience.

Incorporated in this work is everything, known and approved of today by medical science, in the diagnosis and treatment of digestive diseases. Sound clinical practice is found on every page. The technic of the many diagnostic tests and reactions and the use of the various apparatus and instruments employed

both for diagnostic and therapeutic measures, are given in every case. Another feature that will appeal to the specialist, practitioner and surgeon alike, is the many prescriptions given under the various diseases. The plan of the book enables you to find the desired information in a moment, for following the physiologic path of the digestive tract, it takes up in orderly succession the diseases of the Mouth, Pharynx, Esophagus, Stomach, Liver, Gall-Bladder, Bile-Ducts, Pancreas, Small Intestine, Vermiform Appendix, Cecum, Colon, Sigmoid Flexure, Rectum and Anus.

This edition is 86 pages larger than the last, and contains a number of new colored plates, roentgenograms and engravings. Of the wealth of new material, particular attention should be called to the following—the Stomach Tube and the qualitative and quantitative analyses showing the actual condition of the gastric functions—the tests and reactions for the diagnosis of Carcinoma, including the Wolff-Junghans, Gluzinski, Salomon, tryptophan, hemolytic, antitryptic, cytodagnostic, blood-sugar tolerance and others. Also the new and important application of the Duodenal Tube in diagnosis and the technic of non-surgical biliary-tract drainage to remove biliary stasis, eliminate infection and reduce gall-bladder and bile-duct inflammation. The reactions of duodenal enzymes in health and disease are shown in colored plates. This enables the practitioner to check up his tests. The clinical ensemble of diseases of the liver, gall-bladder and pancreas, and the broad medical treatment of the present day are covered in three valuable chapters.

Recent methods of Examining the Feces are given, enabling the detection of the more minute disturbances of the intestinal functions. Also full details on the administration of the various Test Diets and the Test-Diet Stool Findings in each one of the diseases of the digestive organs. To the Roentgen Ray a special chapter is devoted, beautifully illustrated with 48 selected roentgenograms. There is much new matter on Dietetics, a full dietary being given for each digestive disorder. Hydrotherapy, Mineral Waters, Massage and Electricity are fully covered in an up-to-date manner. The full technic is given of the use of bougies, the esophagoscope and the roentgen ray in the diagnosis and treatment of the diseases of the Esophagus. There is a full discussion of Neuroses resulting in motor, sensory or secretory disturbances, the author giving the pharmacodynamic and the physiologic tests in detail so that the clinician can employ them readily. The quinine and urea injection treatment that has revolutionized the treatment of internal hemorrhoids is also given in full detail.

To sum up, the many new methods of investigation, physical, chemical, microscopical, and clinical, have given greater certainty in dealing with obscure pathologic processes. This work covers them all and gives every needed detail and, let us repeat, treats of its subject throughout in a sound clinical manner.

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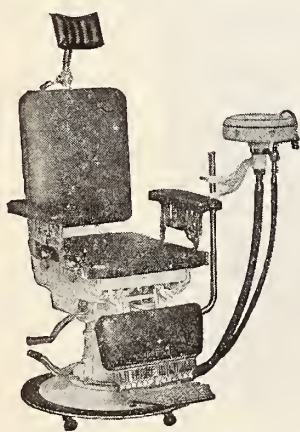
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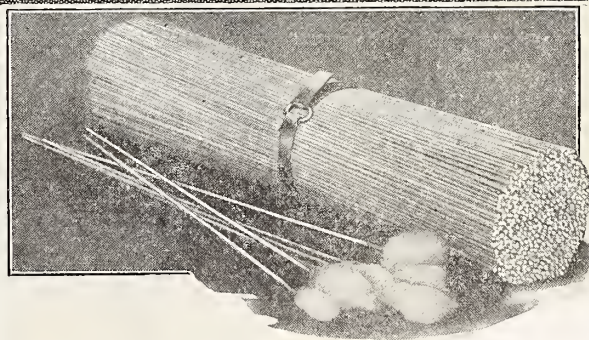
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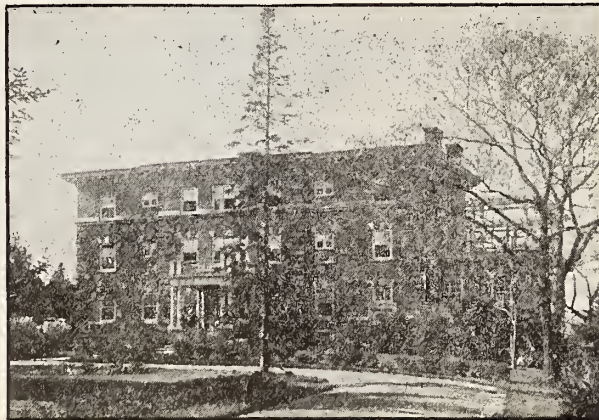
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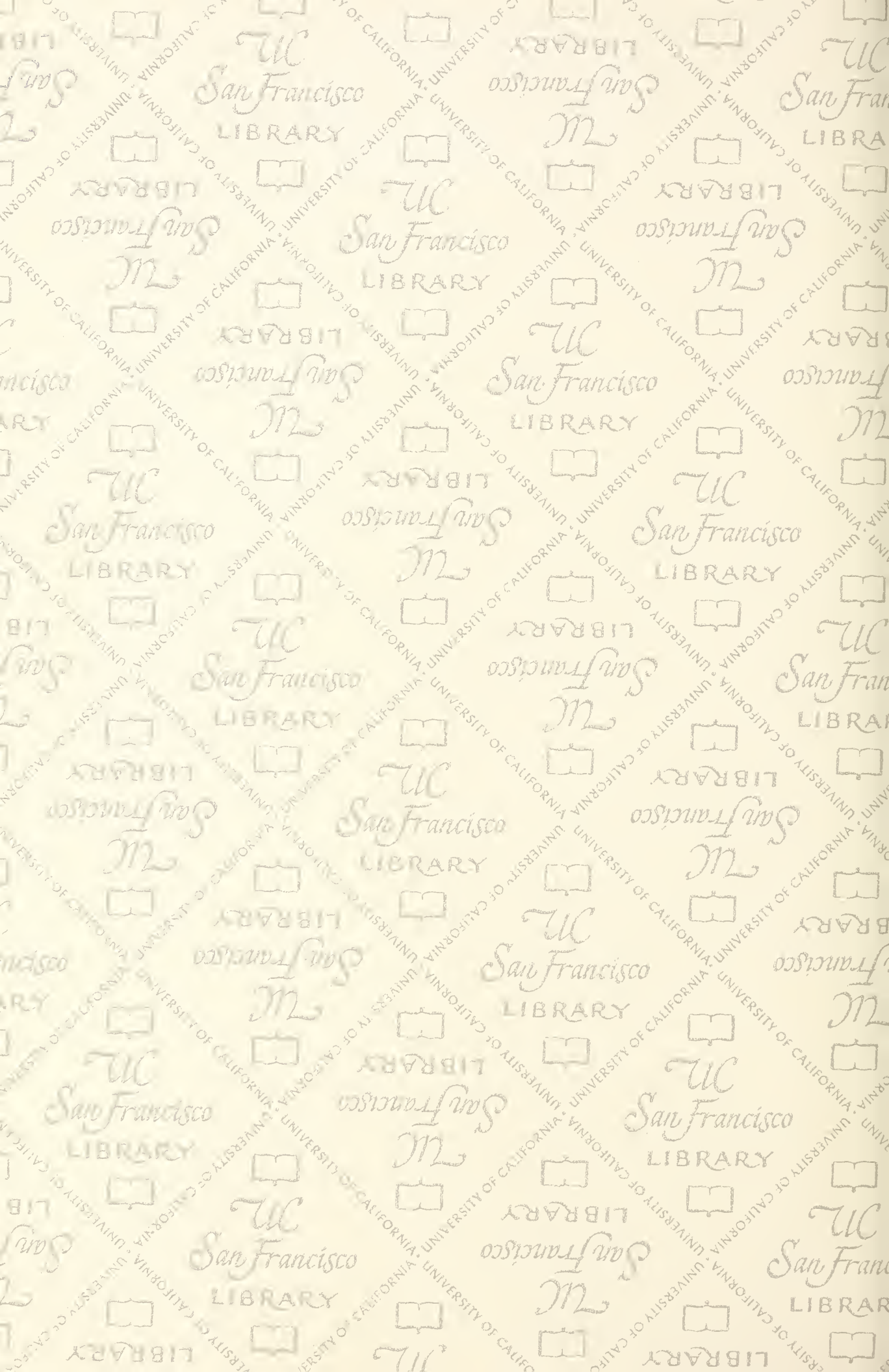
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